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ENVIRONMENTAL ASSESSMENT
NV-050-1-16

FOR
A distribution line and two substations
southwest of Silver Peak, Nevada
(T2S, R39E, MDB&M)

R/W N-30965

Prepared by: Sierra Pacific Power Company
and
The Bureau of Land Management,
Las Vegas District

December 1980

TK
3001
.E58
1980

#15597000020 ID:88081601 TK 3001 .E58 1980

N-30965

DECISION RECORD/RATIONALE
Finding of No Significant Impact
EA NV-050-1-16

Decision

Grant right-of-way application N-30965 to Sierra Pacific Power authorizing construction and maintenance of a powerline and substations near Silverpeak, Nevada, including as terms and conditions the attached special stipulations.

Rationale

The proposed project is needed to allow economic development of the Nivloc mine operation. The socio-economic and productive impacts of this project are positive, and outweigh th minor adverse environmental impacts anticipated.

The decision, which is the same as the proposed action, does not conflict with the Esemeralda Planning Unit MFP; the subject EA has not been sent to the State Clearinghouse.

FONSI

Analysis of the proposed action has determined it not to be a major Federal action and has resulted in a finding of ano significant adverse impacts to the human environment.

Date 2/25/81

for Kemp Conn
District Manager

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SPECIAL STIPULATIONS

1. No blading, grading, or road construction is authorized except for access ramps and spur roads shown on the engineer's drawings (unless approved by the BLM authorized officer).

2. All new access ramps and spur roads shall be limited to 16 feet in width and gradients should not exceed 50 percent.

3. All natural drainage patterns shall be maintained.

4. Revegetation of disturbed areas may be required at the discretion of the BLM authorized officer. Revegetation be required in those areas which are subject to erosion or other environmental considerations.

#1559700020

ID:88081601

TK
3001
.E58
1980

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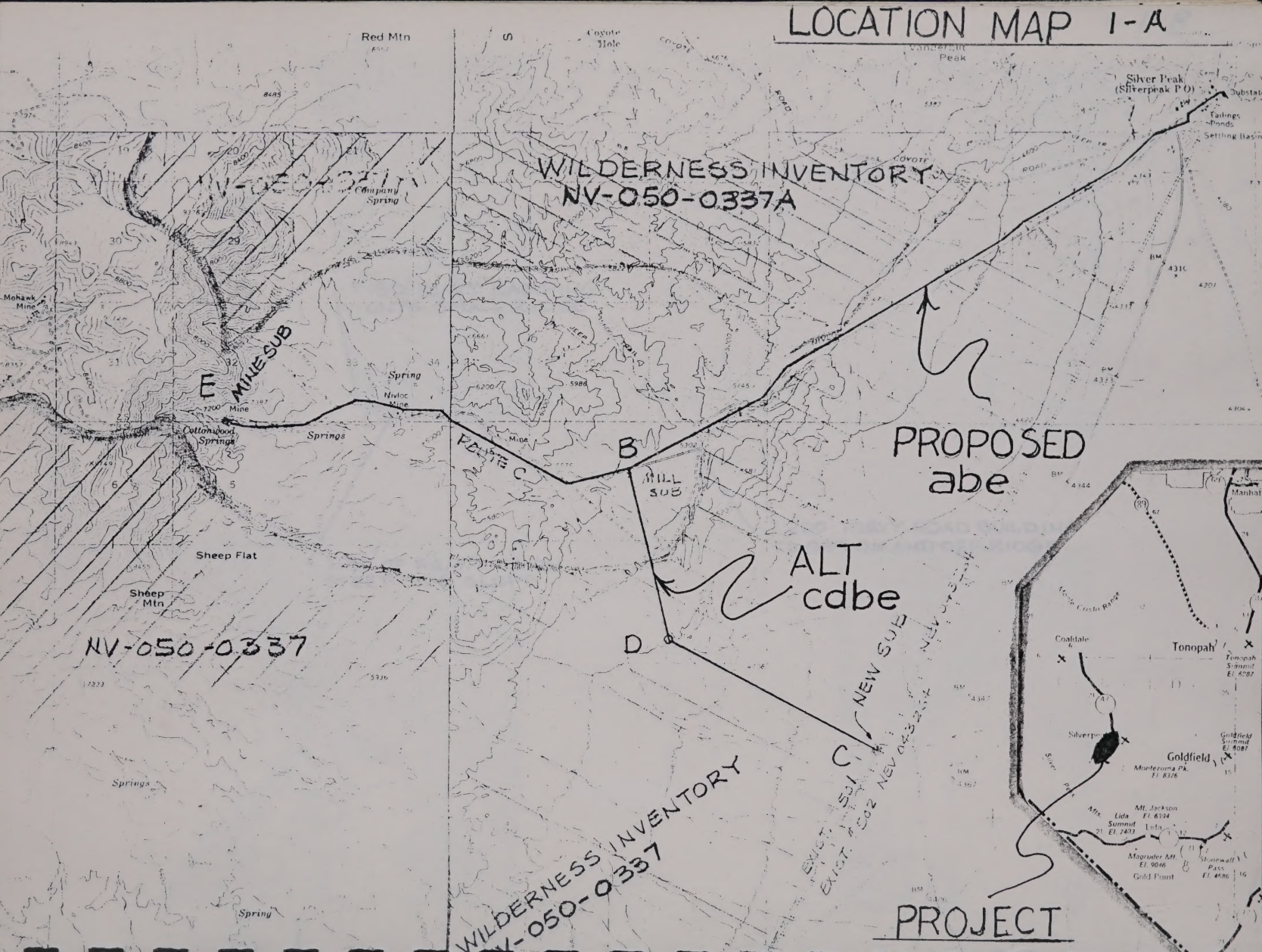
ABSTRACT

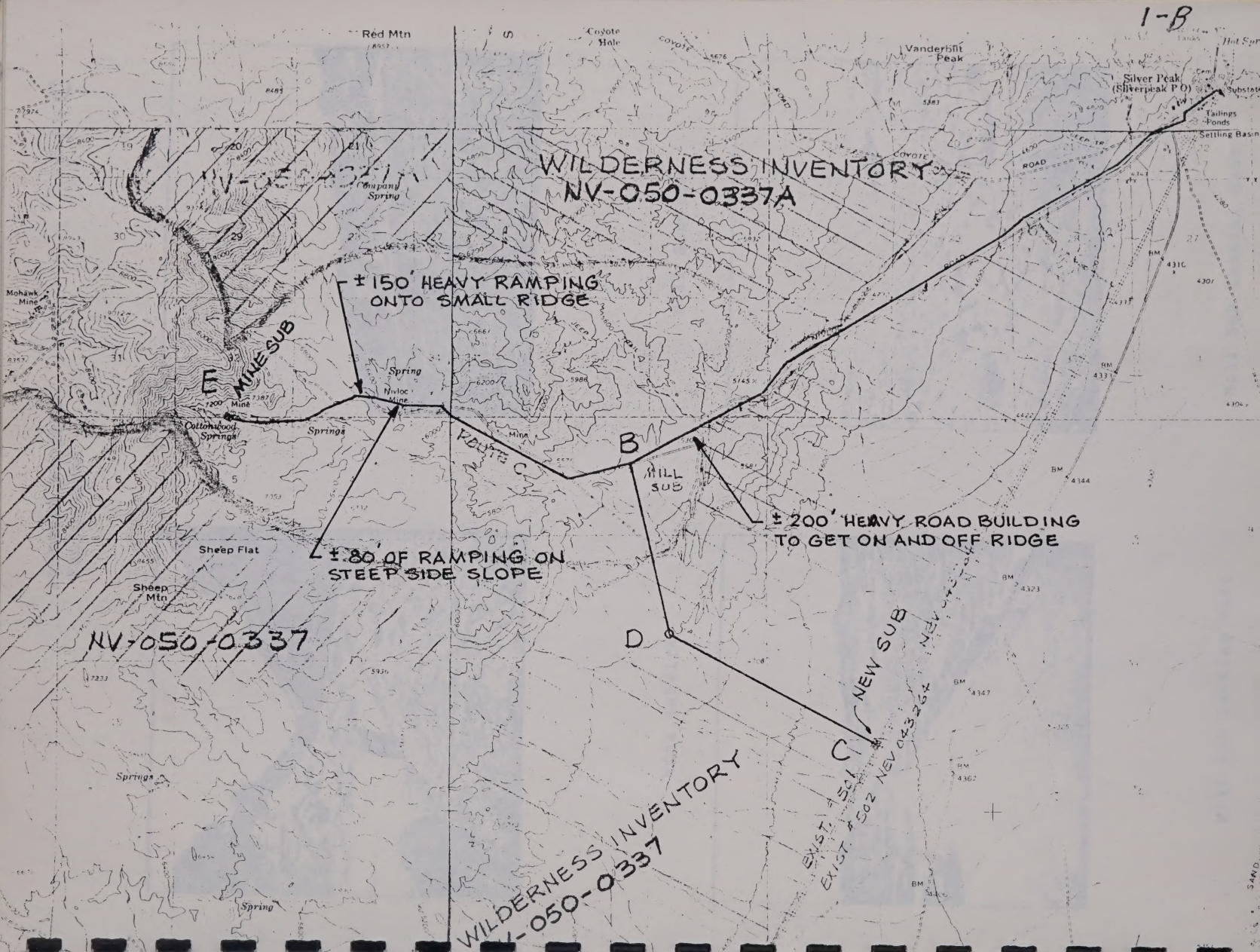
The proposed project is to construct 8.9 miles of 24.9 KV distribution line from the Silver Peak Substation, westerly across Public lands to the Sunshine Mill and Mine Substation.

The structures will be single wooden poles with a "streamline" insulator configuration. Crossarm or structually equivalent designs will be used to avoid (span) environmentally sensitive areas.

The majority of the installation can be accomplished by using existing roads and overland travel. Short spur roads or ramps will be required in several sections of the line where existing access is not adequate for safe operation. These areas are identified on Figure 1-C.

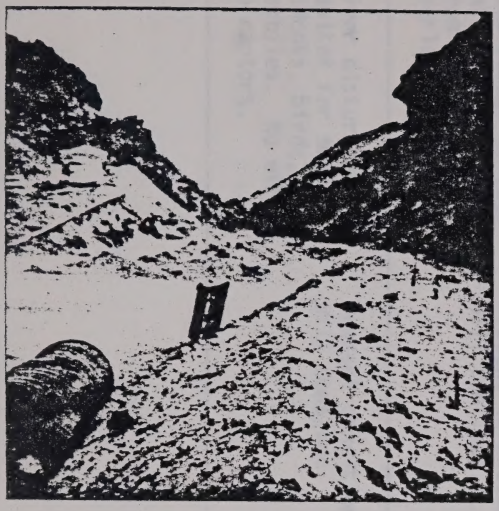
The proposed project will not significantly affect environmental values as construction time will be short and the area of potential impact is small.


LOCATION MAP 1-A
WILDERNESS INVENTORY
NV-050-0337A
PROPOSED
abe
ALT
cdbe
PROJECT
NV-050-0337
WILDERNESS INVENTORY
NV-050-0337
E
MINE SUB
B
C
D
MILL SUB
NEW SUB
EXIST. 69 KV
EXIST. 4.502 NEV 043 KV
Red Mtn
Coyote Hole
Silver Peak (Silverpeak P.O)
Substation
Tailings Ponds
Settling Basin
Company Spring
Mohawk Mine
Nivloc Mine
Cottonwood Springs
Springs
Sheep Flat
Sheep Mtn
Coaldale
Tonopah
Goldfield
Manhattan

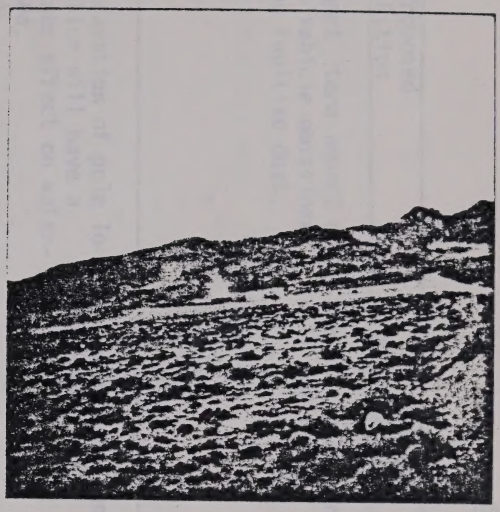

WILDERNESS INVENTORY
NV-050-0337A
± 150' HEAVY RAMPING ONTO SMALL RIDGE
± 80' OF RAMPING ON STEEP SIDE SLOPE
± 200' HEAVY ROAD BUILDING TO GET ON AND OFF RIDGE
E MINE SUB
MILL SUB
NEW SUB
EXIST. 4" GAS EXIST. 4" GAS NEV 043264
NV-050-0337
WILDERNESS INVENTORY NV-050-0337
A
B
C
D
Red Mtn
Coyote Hole
Vanderbilt Peak
Silver Peak (Silverpeak P O)
Tailings Ponds
Settling Basin
Company Spring
Mohawk Mine
Spring
Nivloc Mine
Cottonwood Springs
Springs
Mine
Sheep Flat
Sheep Mtn
ROAD
Springs
Spring

PROPOSED PROJECT
PHOTOGRAPHS

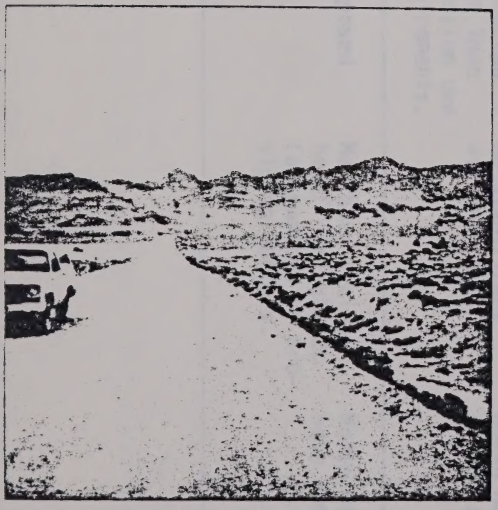
1-C



Mine Subsite



Mill Subsite



Mill Sub Looking West

Mill Sub Looking East

SUNSHINE
SUMMARY OF IMPACTS

	Proposed Action	No Action Alternative	Alternative Alignment	Alternative Design	On Site Generation
AIR QUALITY	Short term impact due to vehicle emissions and fugitive dust.	Present condition will continue.	Short term impact due to vehicle emissions and fugitive dust. May be slightly more than the proposed action, but not significant.	No significant difference between structures.	Will result in increase emissions of hydrocarbo nitrogen oxides, photochemical oxidants and sulfur oxide.
WATERSHED	Excavation of pole location will have a minor effect on watershed.	Present condition will continue	Some additional roads required in this alignment may have a greater effect on watershed than the proposed action.	No significant difference	Would have less effect than either the proposed action or the alternatives of an alternative alignment or design.
VEGETATION	Some damage to vegetation will result from excavation and overland travel.	Present condition will continue.	Damage to vegetation will be greater than the proposed action due to access requirements.	No significant difference.	Would not have a direct effect on vegetation.
WILDLIFE	Minor disturbance of habitat for small rodents, birds, and reptiles. No effect on raptors.	Present condition will continue.	Similar to proposed action.	May have a minor beneficial effect for raptors by providing perches.	Noise disturbance may have a minor effect.

SUNSHINE
SUMMARY OF IMPACTS

	Proposed Action	No Action Alternative	Alternative Alignment	Alternative Design	On Site Generation
VISUAL RESOURCES	Would be visible from the existing road.	Present condition will continue.	Would not be visible from the existing road for approx 5 miles from Silver Peak.	Alternatives are more more visible than the proposed design.	May have a minor effect in the region adjacent to the generator.
CULTURAL RESOURCES	No significant sites identified. Therefore, no significant impacts.	Present condition will continue.	Not surveyed but many drainage areas present. Road requirements may have an impact.	No significant difference.	No effect.
WILDERNESS	Wilderness inventory units NV-050-0337A and NV-050-0337 dropped from further consideration; therefore no impact to wilderness values.	N/A	Wilderness inventory units NV-050-0337A and NV-050-0337 dropped from further consideration; therefore, no impact on wilderness values.	Same as the proposed action.	No impact on wilderness values.
SOCIO-ECONOMICS	Will have a minor positive economic effect on Silver Peak due to expenditures in the town. Most earnings will be retained by the constructiion crews.	Present condition will continue.	Same as the proposed.	N/A	Increase emissions of sulfur dioxide particulates and nitrogen oxides. Increase in fossil fuel combustion. Increased cost of electricity due to fuel and maintenance cost.

PURPOSE AND NEED

The purpose of the proposed facility is to provide a reliable source of electric power for both mill and mine operations at the Sunshine Mine.

Since on-site generation is prohibitively expensive for this size operation, the only alternative was to purchase power from nearby facilities.

At the request of the Sunshine Mining Company, Sierra Pacific Power Company agreed to supply electric power from a metering point at an existing substation located in the town of Silver Peak, subject to receiving a right of way grant from the Bureau of Land Management.

The 24.9 KV distribution line and two substations (one located at the mill and one at the mine) are required to serve a three megawatt load (three million watts).

The proposed action will be financed by the Sunshine Mining Company and is designed to serve that company.

Location

The proposed project originates at the Silver Peak Substation in the town of Silver Peak (NE¼ of Section 22; T2S, R39E, MDB&M). The line continues in a southeasterly direction for a distance of 8.9 miles at the Sunshine Mine Substation (NW¼ of Section 5, T3S, R38E, MDB&M). The legal description appears as an attachment to the application.

BLM Planning Unit

The proposed project will be located in the Esmeralda Planning Unit of the Stateline/Esmeralda Resource Area within the Las Vegas District.

Implementation

The proposed project will be constructed in two concurrent operations. The first section will consist of the 24.9 kilovolt line extending 5.5 miles from the town of Silver Peak to the Mill Substation. The second section will consist of a 24.9 kilovolt line extending 3.4 miles from the Mill Substation to the Mine Substation. The start of construction is anticipated on February 16, 1981, and will take approximately five months to complete.

INTRODUCTION

The proposed project is located southwest of Tonopah in the Red Mountain Mining District. The Sunshine Mining Company will begin production of the old 16:1 Mine in June of 1981. To accomplish this, Sierra Pacific has proposed a joint effort with the Las Vegas District of the Bureau of Land Management and the Sunshine Mining Company.

The purpose of this effort is to define BLM and local concerns early in the environmental review process and construct a document which clearly identifies those issues and the effect the proposed action and realistic alternatives will have.

This approach has been successfully demonstrated with both the Carson and Battle Mountain BLM Districts. It is the intent of this document to supply the information necessary for an expeditious decision while providing local knowledge of the environmental setting.

Background Historical Information

Mining History - Earliest mining activity occurred in the Mineral Ridge area in the 1860's and 1870's, but the main period of activity was 1933 to 1942.

The Mineral Ridge area consists of gold-bearing quartz veins and irregular quartz masses in the Pre-Cambrian Wyman Formation whereas the southern or Red Mountain deposits are silver-bearing veins in rocks of Tertiary (mid-Pliocene) age.

The Red Mountain District was born with the founding of the Nivloc Mine in 1907. However, the main production of Nivloc occurred during the period 1937-1943. The Mohawk was discovered in 1920, but most productive period was in the late 1950's. The Sixteen-to-One was also found during the early 1920's.

The veins throughout the Red Mountain District are quite similar. Massive bonded quartz, calcite, barite, siderite and, locally, manganosiderite are the gangue minerals. Fine grained argentite appears to be the principal ore mineral. Traces of gold and small amounts of lead and zinc are other metallic compounds. Banded appearance would indicate they were formed by fracture filling in the epithermal zone. Most outcropping veins are leached of most of the silver values and much of the ore mined is presumably secondarily enriched.

Gross production in 1960 was recorded at $16,313,000. However, if the lithium production of the past twenty years by the Foote Mineral Co. is now included, it would surpass this figure considerably.

I ALTERNATIVES INCLUDING THE PROPOSED ACTION

A. Proposed Action

The proposed action is to construct a 24.9 kilovolt distribution line across 8.9 miles of Public lands administered by the Bureau of Land Management, Las Vegas District. The line originates at the Silver Peak Substation and continues along Mohawk Avenue to Public lands at the junction of Mohawk Avenue and the Old Nivlock Road. The proposed alignment closely parallels the existing road for approximately three miles, then spans a large wash and continues to a point atop a knoll. Since access for construction is not possible at this point, a short spur road of approximately 200 feet will be necessary (see location on Fig. 2). The alignment continues across the road to a plateau region 200 yards from the road; then continues a short distance to the mill site. Although several ramps and short spur roads will be required in this region (see Fig. 2), the majority of the travel will be "overland". The remainder of the alignment closely parallels existing roads along the canyon, however, some overland travel may be necessary.

MILL AND MINE LINE

Materials

The structures will be single wooden poles which are treated with creosol.

The insulators will be Sky Gray in color and will be arranged in a "streamline" configuration.

The conductor will be 395 MCM (approximately 3/4 of an inch in diameter), all aluminum conductor with a non-reflective surface.

The poles will vary from 40 to 60 feet in height and will be buried to a depth of approximately 6-8 feet. Spans will range from 200-300 feet except in those environmentally sensitive areas where longer spans are necessary to avoid additional structures. In these areas, special structures (see Figures 3a and 3c) will be required to meet more demanding design criteria.

Construction Technique

Materials will be delivered to each site with large transports. In rugged terrain, a small caterpiller crawler may be used to pull the poles to the excavation site.

Excavation for holes will be accomplished with either an auger truck, or backhoe. Disturbance in those areas will be limited. However, as previously mentioned, several ramps will be required to permit safe operation conditions.

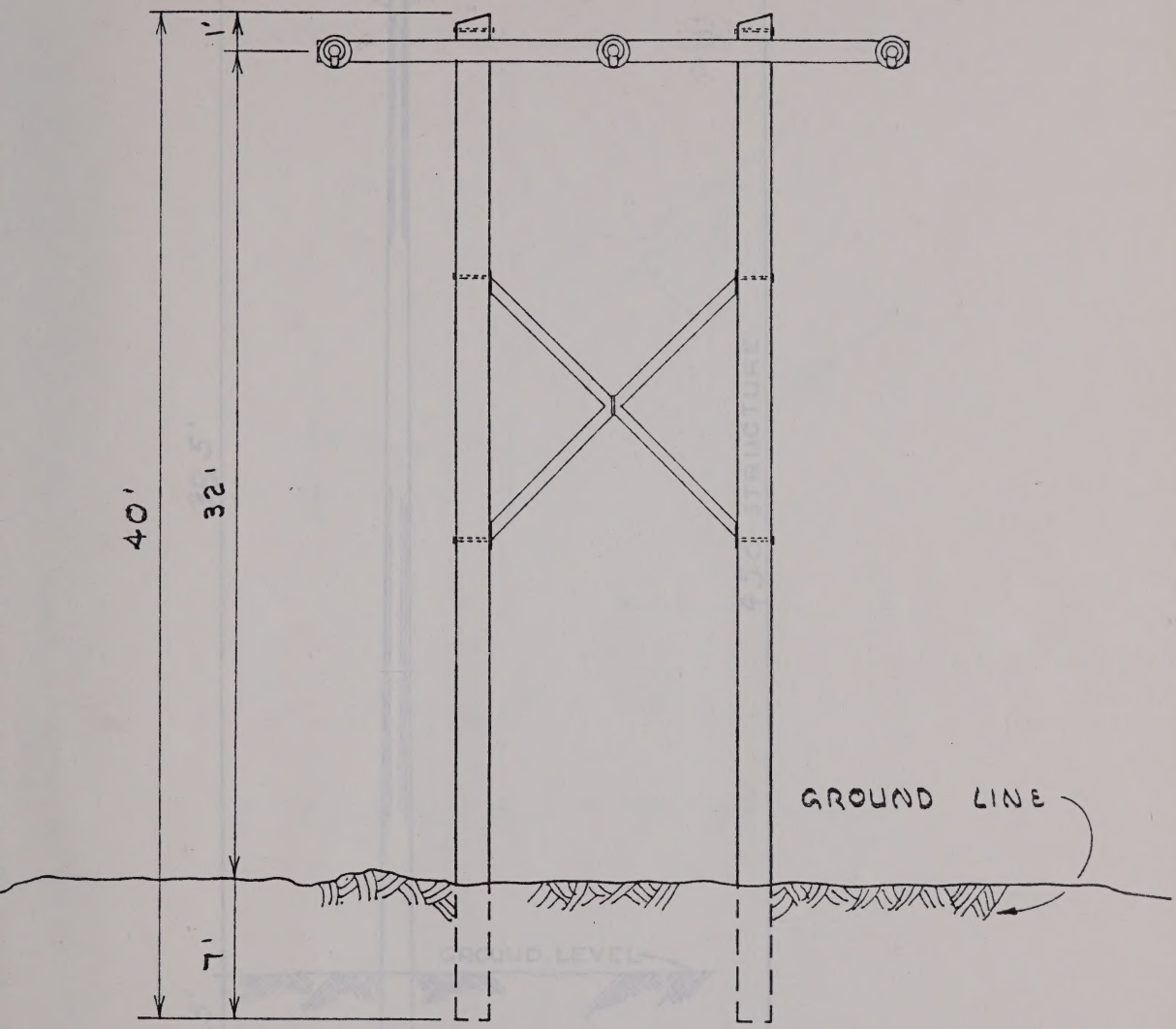
A small crane will be used to install the poles. Several crew trucks and a tensioning truck will be required to pull the conductor onto the conductors.

Construction crews for the disturbance line will come from the Hawthorne and Tonopah District offices of Sierra Pacific (approximately 8 men).

A contractor will prepare the substation site and will install structures for the electric equipment (approximately 6 men).

The electrical installation in the substation will be performed by the Measurements and Test Department of Sierra Pacific Power Company (approximately 6 men).

In the event that all crews were working simultaneously (not probable), a total of 20 personnel would be present.



2-A

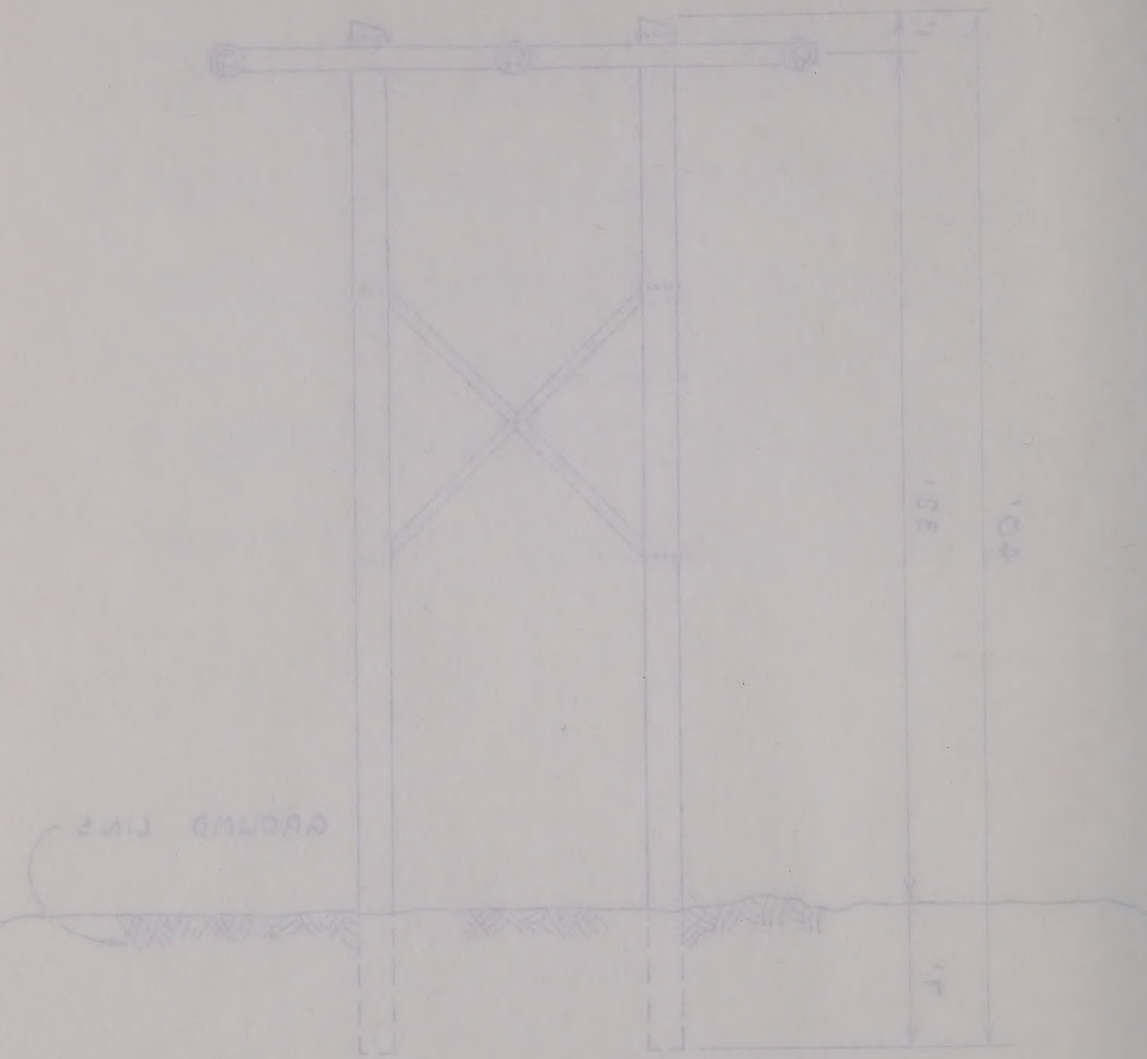
24.9 KV, 2-POLE, DOUBLE ARM, DEAD-END TANGENT CONSTRUCTION

Sierra Pacific Power Company

neuweiler - april 22, 75 | 75

86

SCALE N.T.S.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40'
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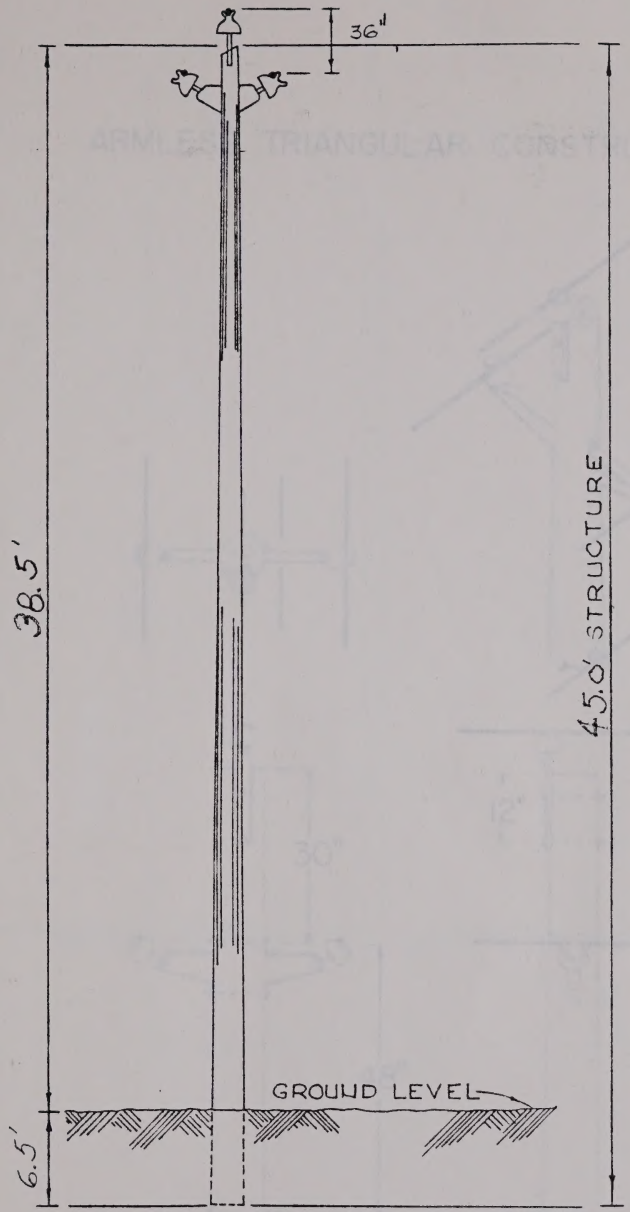


2-B

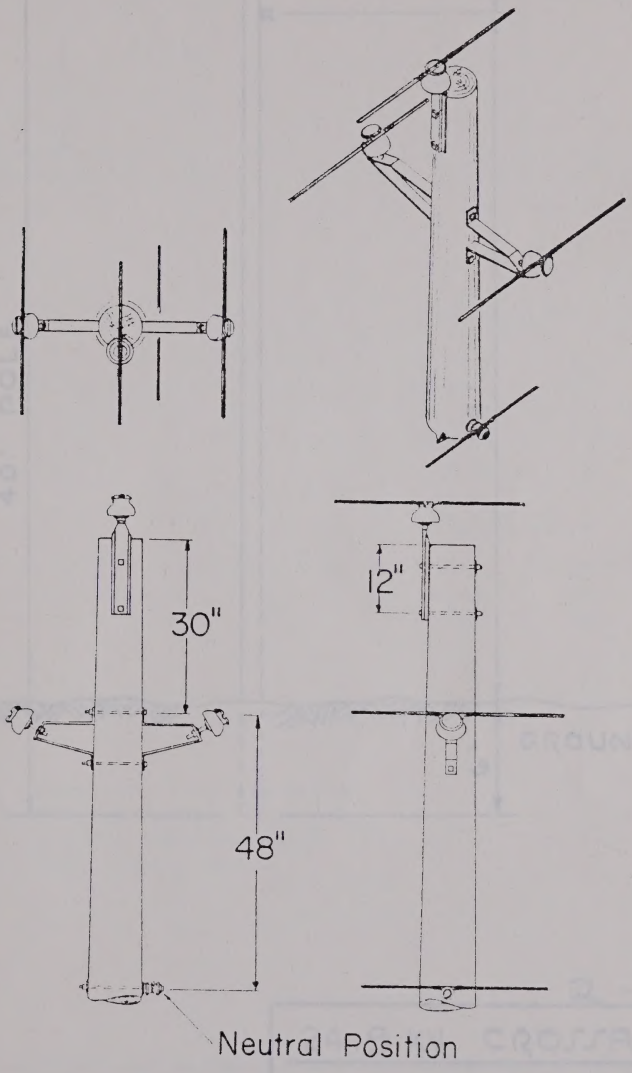
POLE CONFIGURATION
24.9 K.V. STREAMLINED

RIDLEY AUGUST 30, 1976

Sierra Pacific Power Company

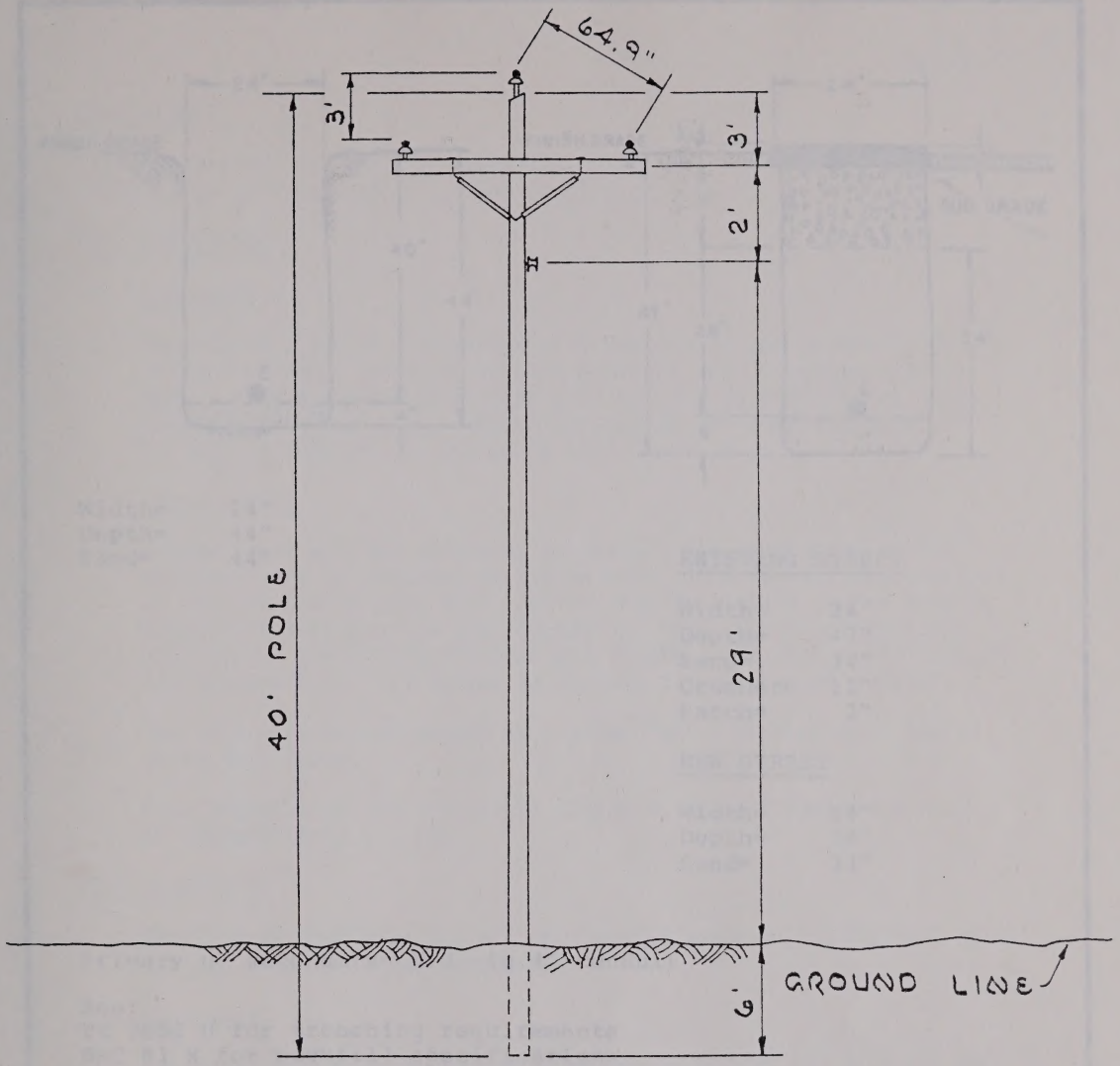
SCALE N.T.S.

ARMLESS TRIANGULAR CONSTRUCTION



REFERENCE:
IDAHO POWER COMPANY
APPROVED BY: MORLAN W. NELSON
BIRDS-OF-PREY CONSULTANT

2-C



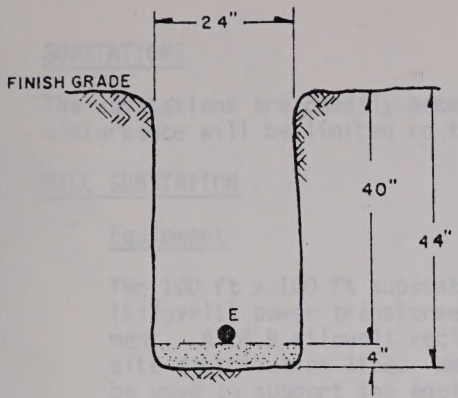
2 - D

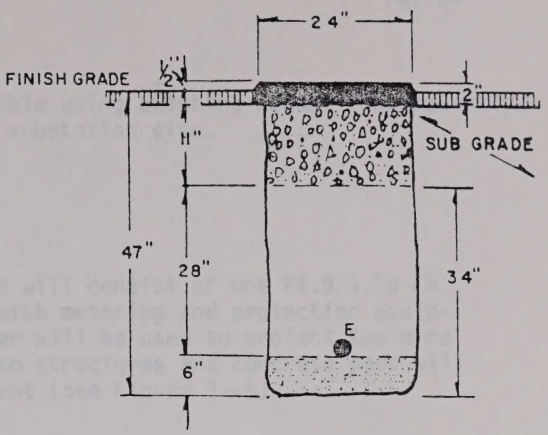
24.9 KV CROSSARM RAPTOR PROTECTION CONSTRUCTION

Sierra Pacific Power Company

NEW 9-3-76

SCALE NTS





Width= 24"
Depth= 44"
Sand= 44"

EXISTING STREET

Width= 24"
Depth= 47"
Sand= 34"
Crusher= 11"
Patch= 2"

NEW STREET

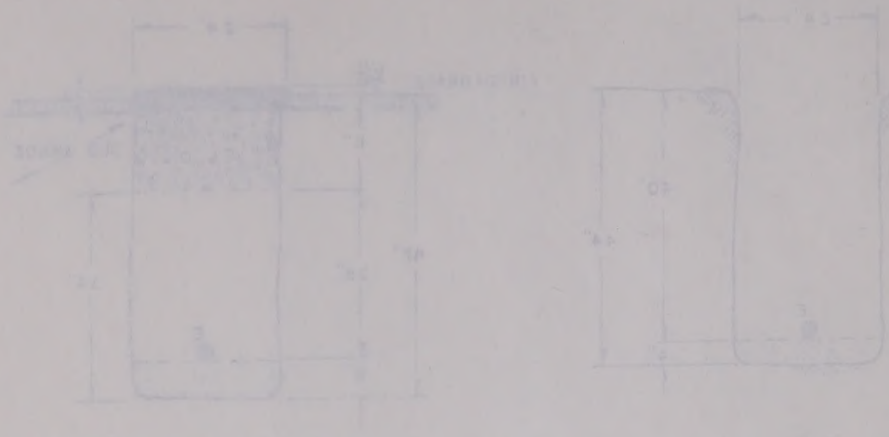
Width= 24"
Depth= 34"
Sand= 34"

Primary or secondary= D.B. to 4" conduit

See:
TE 0001 U for trenching requirements
BAC 01 X for backfill specifications
GI 0001 U for staking requirements
GI 0003 U for OSHA requirements

2-E

APPRV'D BY				
	CHG.	DESCRIPTION	DWN	ENG	APPRV'D
DRAWN BY TAH.	ENGINEERING STANDARD		SHT 1 OF 1	
ENGINEER Fitz RH	TRENCHING ELECTRIC ONLY		CHANGE	
DATE 1/29/79	RENO SIERRA PACIFIC POWER CO. NEVADA		DRAWING NO. TE 0006 U	



SUBSTATIONS

The substations are readily accessible using existing roads. Consequently, disturbance will be limited to the substation site.

MILL SUBSTATION

Equipment

The 100 ft x 100 ft substation will consist of one 24.9/4.16 KV (kilovolt) power transformer with metering and protection equipment. A 24.9 kilovolt recloser will be used to protect the mine site distribution line. Wooden structures and concrete pads will be used to support the equipment (see Figure 3-A).

Construction

A short road will be necessary to connect the substation to the existing road (a distance of approximately 200 feet). Construction of the substation site will require that the entire fenced area be cleared of surface rock and vegetation, then graded and surfaced with gravel for fire protection and runoff. The larger oil containing equipment will be bermed to contain any unforeseen leakage.

The site will be surrounded by a seven foot high barb wire topped chain link fence.

Site preparation and electrical installation will require a crew of approximately six (6).

MINE SUBSTATION

The 70 x 50 foot Mine Sub will be located adjacent to the haul road and the Sunshine owned substation.

Equipment

The Mine Substation will consist of one 24.9/4.16 - 2.24/2.576 MVA (megavolt-ampere) power transformer with associated metering and protective equipment. Wooden structures and concrete pads will be used to support the equipment. The site will be surrounded by a seven foot high, barb wire topped chain link fence (see Figure 3-A).

Construction

The substation will be constructed using those techniques described in the Mill Substation construction.

Site preparation and electrical installation will require a crew of approximately six (6).

SUBSTATIONS

The substations are readily accessible using existing roads. Correspondingly, disturbance will be limited to the substation site.

MILL SUBSTATION

Equipment

The 100 ft x 100 ft substation will consist of one 24.9/14.16 kV (kilovolt) power transformer with metering and protection equipment. A 24.9 kilovolt recloser will be used to protect the mine site distribution line. Wooden structures and concrete pads will be used to support the equipment (see Figure 3-A).

Construction

A short road will be necessary to connect the substation to the existing road (a distance of approximately 200 feet). Construction of the substation site will require that the entire fenced area be cleared of surface rock and vegetation, then graded and surfaced with gravel for fire protection and runoff. The larger oil containing equipment will be bermed to contain any unforeseen leakage.

The site will be surrounded by a seven foot high barb wire topped chain link fence.

Site preparation and electrical installation will require a crew of approximately six (6).

MINE SUBSTATION

The 70 x 50 foot Mine Sub will be located adjacent to the haul road and the Sunshine owned substation.

Equipment

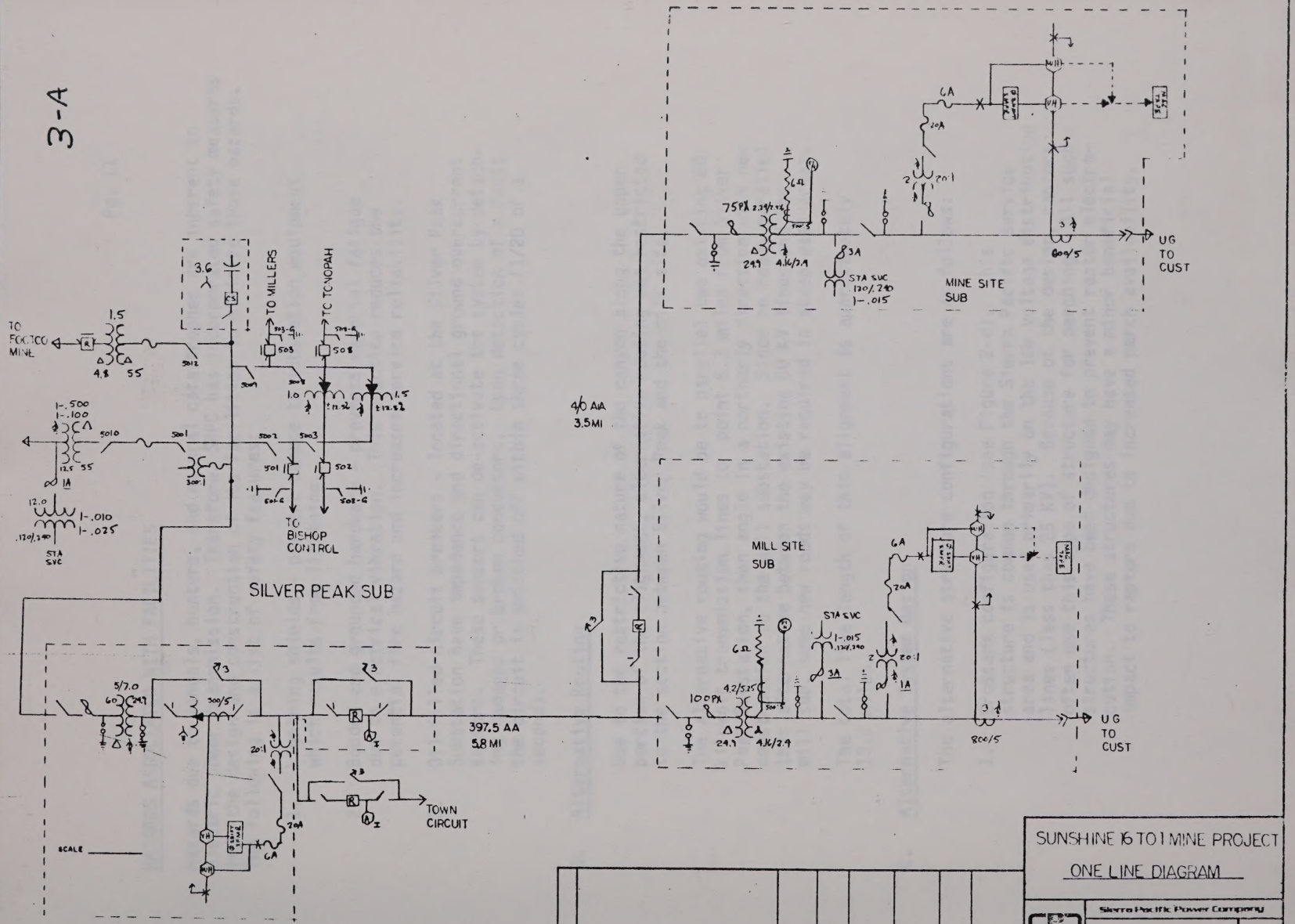
The Mine substation will consist of one 24.9/14.16 - 2.24/2.5?5 MVA (megavolt-ampere) power transformer with associated metering and protective equipment. Wooden structures and concrete pads will be used to support the equipment. The site will be surrounded by a seven foot high, barb wire topped chain link fence (see Figure 3-A).

Construction

The substation will be constructed using those techniques described in the Mill Substation construction.

Site preparation and electrical installation will require a crew of approximately six (6).

3-A



SUNSHINE 16 TO 1 MINE PROJECT

ONE LINE DIAGRAM

Sierra Pacific Power Company

NO	REVISION	DATE	DWN	CHECKED	APPROVED	I.R. NO	W.O. NO
1	ORIGINAL	11/80		MPH			

HAZARDS ASSOCIATED WITH FACILITIES

Hazards due to vandals, hunters, and natural catastrophes are inherent to electric power transmission. Therefore, SPPC has incorporated safety measures into the design and construction of its facilities to minimize those hazards. The following is a list of safety features:

1. Lightning shields - prevent damage to substation equipment which results from lightning.

2. Bonded and grounded hardware - prevents material fatigue due to electrical vibration. This practice reduces the potential fire hazard and increases service reliability.

3. Oil-filled circuit breakers - located at the Silver Peak Substation have impedance and directional ground overcurrent sensors. These sensors can de-activate the system by detaching damaged or broken conductors. Upon detection of a fault the circuit is switched off within three cycles (1/20 of a second).

B. Alternative Routing

Due to the restrictive nature of the canyon along the upper portion of the alignment, alternative routing was restricted to the section between Silver Peak and the mill site.

The alternative routing would be to parallel two existing 60 kilovolt transmission lines to point 6.3 miles from Silver Peak Substation, then angle in a northerly direction with new construction to the mill substation. Since no roads parallel this alternative between the existing 60 KV lines and the mill sub, some new roads may be required in steep wash areas.

The total line length of this alignment is approximately 13.2 miles.

C. Alternative System Design

The alternative structure configurations are as follows:

1. Crossarm configuration (see Figure 2-d). This structure is common through the Sierra Pacific service area and is used primarily on the low voltage distribution lines (less than 25 KV). Because of the design, raptors often use this type of structure for perching. All such structures have been designed to prevent raptor electrocution. These structures may have a minor beneficial impact to raptors due to increased perch availability.

2. Underground (see Figure 2e). This type of system will consist of three buried cables in a 3' x 1' trench. Select backfill will replace the native soils to a point just below the surface. Considerable excavation is required for this type of system. In addition, maintenance is sometimes difficult and may require substantial excavation to locate a fault. Cost for such a line is approximately ten times that of an overhead system. Thus, such a system may jeopardize the economic feasibility of mining operations at Sunshine.

D. No Action

Under this alternative, BLM would not grant the right of way permit, and the distribution line and substations would not be constructed.

E. On-site Generation

This alternative will require installation of two fossil fuel internal combustion generators (with smaller standby units) totaling 3 megawatts. In addition, two 10,000 gallon fuel storage tanks will be required.

II. AFFECTED ENVIRONMENT

The proposed project lies within the Red Mountain Mining District in the central part of the Silver Peak Mountains.

Climate in the region is semi-arid with an average rainfall of less than 12 centimeters at 1.5 kilometers elevation and more than 30 centimeters at 2 kilometers. Temperatures are relatively mild with 130 to 200 days with temperatures above 32 degrees Fahrenheit in winter.

Air Quality is generally good with the majority of the existing pollutents confined to fugitive dust which results from vehicle travel and limited mining activity. The Nevada Division of Environmental Protection currently lists the Silver Peak area as in attainment for particulates and sulfur dioxide. A diesel generator at the 14 to 1 Mine and operations at the Foote Mineral Company are the only continuous source of emissions in the area.

Watershed Only one perennial stream occurs along the proposed alignment. The stream originates from a mine above the proposed project and enters a conduit before reaching the proposed project. There are several smaller seasonal streams which cross the proposed alignment and three significant wash areas with considerable erosion and sediment transport. The majority of the sediment originates at the tailing from the Old Nivlock Mine. Much of the sediment remains in the general area but some is transported a considerable distance.

Soils in the region are primarily old and young alluvium, colluvium and landslide debris. Process tailings in the area of the old Nivloc Mine are prevalent in that area and have been eroded over time. Erosion in the lower area is dramatic and resulted from both natural and man-made events.

Geology The Silver Peak Mountains are the largest mountain group in the county, covering approximately 300 square miles. Two parallel belts of pre-Tertiary rocks intruded by quartz monzonite plutons form the northeast and southwest parts. Between these belts of older rocks is a thick section of Tertiary sedimentary and volcanic rocks occupying what must have been a topographic low in early Tertiary times.

The belt that forms the northeast portion may be divided into two segments of approximately equal length. The southeast segment known as Mineral Ridge has a core of quartz-monzonite (Mesozoic-Tertiary) that intrudes the Wyman formation (Upper Pre-Cambrian) but does not intrude the Reed Dolomite (Upper middle pre-Cambrian). Thus, the Mineral Ridge structures is defined by the Wyman as a gentle southeast dipping anti cline. Series above the Wyman display secondary folding featuring synclinal facies (North of the Mary Mine) and drag folds with overturned axes as well as diversely oriented folding in the southern end. Portions of the Reed overlie the Wyman in

structure concordance though some display low angle faults. The central portion of Mineral Ridge features a large block of Deep Spring (Middle upper Pre-Cambrian) thrust over the Wyman, Reed and quartz-monzonite. The high portion of Mineral Ridge is composed of partial sections of Deep Spring, Campito (Upper Pre-Cambrian), Poleta (Lower Cambrian), and Harkless (Lower Cambrian). On the east flank of the high peak Harkless rests on Wyman and on the west flank Deep spring lies on Wyman. The top of the peak is Campito indicating a series of thrust activity.

Flood Hazards The proposed alignment is subject to periodic flooding as is evident from the large dry wash areas and scattered debris.

Topography The region surrounding the proposed project varies from steep canyon walls in the mine area to rolling hills and wash areas at the mill site to flatlands at the tap site.

Vegetation The proposed aligment is situated in the Sagebrush belt of the Great Basin Desert. Vegetation is moderate to sparsely populated and can be roughly divided into three zones. The eastern portion of the alignment paralleling the county road is relatively flat, consisting primarily of Big Sage (Artemesia tridentata), Snakeweed (Xanthocephalum sarothroe), Halogeton (Halogeton glomeratus), Greasewood (Sarcobatus vermiculatus baileyi), Twinberry (Menodora spinescens), Inland Saltgrass (Distichillis stricta), and Cheat grass (Bromus tectorum).

The riparian vegetation in the canyon area consists of willow (Salix sp.), Wild Rose (Rosa sp.), Horsebrush (Tetrademia canescens), and Big Sage (Artemesia tridentata).

The uppermost portion of the route is sparsely populated with Juniper (Juniperus sp.), Mountain Mahogany (Cercocarpus betuloides), with interspersed areas of Squaw tea (Ephedra virdis), Rabbitbrush (Chrysothamnus sp.), and Saltgrass (Distichills stricta).

Threatened or Endangered Plants

Cordylanthus tecopensis has been recorded approximately 20 miles northeast of the proposed project. This species is currently under review, as insufficient information now exists (FR Vol 45 #242 P. 82499) NOTE: No plants currently listed are known to exist in the immediate vicinity of the proposed project.

Wildlife Wildlife in the region is relatively sparse due to the lack of vegetative cover. Those animals typically occurring in the region are as follows:

structure concordance though some display low angle faults. The central portion of Mineral Ridge features a large block of Deep Spring (Middle Upper Pre-Cambrian) thrust over the Wyman, Reed and quartz-monzonite. The high portion of Mineral Ridge is composed of partial sections of Deep Spring, Campito (Upper Pre-Cambrian), Poleta (Lower Cambrian), and Harkless (Lower Cambrian). On the east flank of the High Peak Harkless rests on Wyman and on the west flank Deep Spring lies on Wyman. The top of the peak is Campito indicating a series of thrust activity.

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The riparian vegetation in the canyon area consists of willow (Salix sp.), Wild Rose (Rosa sp.), Rabbitbrush (Tetradymia canescens), and Big Sage (Artemesia tridentata).

The uppermost portion of the route is sparsely populated with dwarf (Juniperus sp.), Mountain Mahogany (Cercocarpus betuloides), with interspersed areas of Nevada Tea (Ephedra viridis), Rabbitbrush (Chrysothamnus sp.), and Saltgrass (Distichlis stricta).

Threatened or Endangered Plants

Corydalanthus tenuensis has been recorded approximately 20 miles northeast of the proposed project. This species is currently under review, as insufficient information now exists (FR Vol 45 #62 P. 23240). NOTE N.D. plants currently listed are known to exist in the immediate vicinity of the proposed project.

Wildlife Wildlife in the region is relatively sparse due to the lack of vegetative cover. Those animals typically occurring in the region are as follows:

Mammals

Mule deer	Odocoileus hemionus
Wildhorse	Equis caballus
Kit fox	Vulpes macrotus
Whitetail antelope ground squirrel	Dipodomys ordi

Birds

Golden Eagle	Aquila chrysaetos
Red-tailed Hawk	Buteo jamaicensis
Sage Sparrow	Amphispiza belli
Vesper Sparrow	Pooecetes gramineus
Ferrugenous Hawk	Buteo regalis

Reptiles

Speckled Rattlesnake	Crotalus mitchelli
Great Basin Rattlesnake	Crotalus viridis
Desert Spiny Lizard	Sceleporus magister
Sagebrush Lizard	Sceleporus graciosus

Threatened or Endangered Animals - No T/E animals are known to inhabit the immediate vicinity of the proposed project.

Human Values

1. Visual Resources

   The area is currently being managed as interim Class III. The region surrounding the proposed project consists of high mountains and steep canyons. Mining activity is prevalent throughout the region. The immediate area surrounding the project has been significantly altered from the natural condition of the landscape.

2. Socio-economic Considerations

   The town of Silver Peak is close to the proposed project. The economic base of the community is based on mining, mineral processing, and ranching.

3. Cultural Resources

   An archeologic reconnaissance was performed by Dr. Richard Brooks of the University of Nevada Musem of Natural History, Las Vegas, in November of 1980.

Dr. Brooks concludes that no significant sites were present along the proposed alignment. The only significant cultural sites are the abandoned mines at Nivloc.

The complete archeologic report appears as an attachment to this report.

4. Wilderness

Two wilderness inventory units border the proposed project, NV-050-0337A and NV-050-0337. Both were recommended to be dropped from further consideration by Edward Spang, Nevada State Director of the Bureau of Land Management in October 1980.

The official comment period ended December 15, 1980.

The State Director's decision to release those units was upheld, pending final Federal Register notification.

III ENVIRONMENTAL CONSEQUENCES

A. Proposed Action

1. Environmental Impacts

a. Air Quality

The proposed action will result in a minor increase in fugitive dust and vehicle emission. These emissions will be temporary in nature and will result from vehicular traffic on unpaved roads and excavation for poles.

b. Watershed/Soils

The proposed alignment may temporarily result in minor erosion as a result of soil disturbance. Since most construction areas are adjacent to existing roads, this impact will not be significant.

c. Flood Hazard

The proposed project would not significantly contribute to the potential flooding or erosion potential because spans would be longer over problem areas, requiring placement of fewer poles.

d. Topography

The topography will be slightly altered only in those areas where short ramps are required to individual pole locations. See Figure 1-c.

e. Vegetation

Vegetation will be removed in the substation and replaced with gravel (for fire protection). Also, vegetation will be removed from access ramps but can be re-established with native vegetation or re-seeding. Since overland travel will be used in areas not accessible by existing roads, minor damage to vegetation in these areas will occur.

f. Threatened and Endangered Species

The proposed project will have no effect on threatened or endangered species.

g. Wildlife

The project will have no significant effect on wildlife populations since relatively little habitat will be disturbed.

(1) Raptors

The proposed project will use a single pole streamline configuration. This type of construction consists of single wooden poles with offset insulators. Raptor protection is accomplished by discouraging raptor perching. The porcelain insulator is too slippery and does not provide acceptable perches. In addition, the wide phase-to-phase and phase-to-ground spacing minimizes simultaneous contact of two conductors, thereby minimizing electrocution hazards.

(2) Threatened and Endangered Species

The proposed project wil have no effect on threatened or endangered species.

h. Human Values

(1) Visual resources

Although the proposed project will effect visual resources, the influence of single pole streamline structures will be considerably less than alternative structures. In several locations other type structures may be necessary to avoid environmentally sensitive areas; however, installation of special structures in these locations will avoid the installation of additional structures.

As this area is managed under interim Class III criteria, the proposed action is not deemed by the District Visual Resource Management Specialist to warrant a contrast rating analysis. Throughout the District, other projects of a similar nature have been constructed and have met interim Class III criteria.

(2) Cultural Resources

Cultural Resources will not be significantly affected by the proposed project (see attached Cultural Resource Report).

(3) Wilderness Values

The two Wilderness inventory units bordering the proposed projects are not recommended for further consideration. Final comments on the decision ended December 15, 1980, and the decision was upheld, pending final Federal Register notification. Therefore, there will be no impacts on wilderness values.

(4) Socio-Economic

The construction crews may spend some earnings in the town of Silver Peak, but will retain the majority of their earnings and return to the towns of Hawthorne and Tonopah.

2. Mitigation Measures

a. No blading, grading, or road construction is authorized except for access ramps and spur roads shown on Figure 2 (unless approved by the BLM authorized officer).

b. All new access ramps and spur roads should be limited to 16 feet in width and gradients should not exceed 50 percent.

c. All natural drainage patterns should be maintained.

d. Revegetation of some disturbed areas may be required at the discretion of the BLM authorized officer. Revegetation can be performed in those areas which are subject to erosion or other environmental considerations.

e. Raptors will be protected from the hazard of electrocution by structure design and voltage requirements (see Section g (1), page 18).

f. Visual resources should be preserved to the extent possible by avoiding unnecessary excavation and selecting aesthetically pleasing structures.

g. When antiquities including, but not limited to, archealogical items, paleontological objects, or other items of historic or scientific interest are discovered while using the property, the permittee should leave the items or conditions intact, should immediately cease operations, and inform the District Manager, Las Vegas District, Bureau of Land Management.

3. UNAVOIDABLE IMPACTS

The following are unavoidable adverse impacts:

a. Fugitive dust generated during construction, resulting from vehicle travel over existing unpaved roads, pole elevation, and any access road construction requirements.

b. Vehicle emissions during construction.

c. Damage to vegetation resulting from overland travel and access road construction. (NOTE: Damage to vegetation resulting from overland travel will be short term.)

d. Minor alteration of scenic qualities in the region adjacent to the proposed project.

4. SHORT TERM USE vs. LONG TERM EFFECTS ON PRODUCTIVITY

Construction of the proposed project will not significantly adversely affect the long term productivity of the region since the actual area of disturbance is not significant and the right-of-way can be restored to its former appearance with no residual consequences.

5. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

No irreversible or irretrievable commitment of resources will result from the proposed project as the facilities can be removed and the right-of-way restored to its former condition.

3. UNAVOIDABLE IMPACTS

The following are unavoidable adverse impacts:

a. Fugitive dust generated during construction, resulting from vehicle travel over existing unpaved roads, dust elevation, and dry access road construction requirements.

b. Vehicle emissions during construction.

c. Damage to vegetation resulting from overland travel and access road construction. (NOTE: Damage to vegetation resulting from overland travel will be short term.)

d. Minor alteration of scenic qualities in the region adjacent to the proposed project.

4. SHORT TERM USE VS. LONG TERM EFFECTS ON PRODUCTIVITY

Construction of the proposed project will not significantly adversely affect the long term productivity of the region since the actual area of disturbance is not significant and the right-of-way can be restored to its former appearance with no residual consequence.

5. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

No irreversible or irretrievable commitment of resources will result from the proposed project as the facilities can be removed and the right-of-way restored to its former condition.

2. Mitigation Measures

Culverts may be required where the alignment crosses wash areas to permit access. Other mitigation measures will be similar to those described for the proposed alignment.

3. Unavoidable Impacts

Unavoidable adverse impacts will be similar to those described in the proposed action; however, the amount of fugitive dust and erosion may be slightly greater due to the addition of access requirements for this alignment.

4. Short Term Use vs. Long Term Effects on Productivity

Same as the proposed action.

5. Irreversible or Irretrievable Commitment of Resources

Same as the proposed action.

C. Alternative Structure Design

Several design options are possible. These options include the following structure configurations:

- "H"- Frame (see Figure 2-A).
- "Streamline" (proposed; see Figure 2-B).
- Crossarm (see Figure 2-D).
- Underground (see Figure 2-E).

1. Environmental Impacts

Both the streamline and crossarm configuration will have the same effect on vegetation and soils, as they are single pole structures; however, the crossarm configuration may be more visible. The crossing configuration may have a minor beneficial impact on raptors by providing perches.

The "H"-Frame configuration requires more excavation since two poles are required; however, the distance between structures is approximately two times greater than single pole structures. This structure may also have a minor beneficial effect on raptors by providing perches.

Underground installation requires a significant amount of excavation. In some applications, underground installations are preferrable for safety and reliability, and to enhance the visual resource. In areas such as that of the proposed project, underground installations are not well suited. Such is the case in rugged terrain or abras-

ive soils. In these areas, repairs can be frequent, costly, and environmentally unfavorable. Erosion may occur for a short time after construction.

2. Mitigation Measures

All above ground structures will have a minor effect on vegetation and watershed and are designed to prevent raptor electrocution. The mitigation measures would be the same as for the Proposed Action.

Underground installation would require significant excavation (and blasting) but could be compacted and stabilized.

3. Unavoidable Impacts

All above ground structures will have unavoidable impacts similar to the proposed action.

Underground installation may result in some alternation of watershed and would require temporary removal of vegetation cover in an eight to ten foot wide area.

4. Short Term Use vs. Long Term Effects on Productivity

Similar to the proposed action.

5. Irreversible or Irretrievable Commitment of Resources

The native material removed from the trench may be considered irretrievable since it will be replaced with imported material; however, surface cover can be replaced with native materials.

NO ACTION ALTERNATIVE/ON-SITE GENERATION

Under this alternative, BLM would not grant the right-of-way permit and the distribution line and substations will not be constructed. No environmental impacts would occur. The mining operation may be developed with electrical power generated at the mining site without the need for a distribution line. However, on-site generation will require the installation of diesel generators, storage tanks for supplies of fuel, and periodic shipments of diesel fuel to the site.

Air pollutants (nitrogen oxides, hydrocarbon, carbon monoxide, and sulfur oxides) will be produced by the diesel generators.

Consumption of liquid fossil fuel (diesel) will be approximately two times greater than required for electric generation at a large, efficient, central station power plant. Installation and maintenance costs are also approximately two times that of central station generation. Additional fuel will also be consumed by delivery vehicles bringing diesel to Sunshine.

The reliability of electric power supplied by on-site generation is limited by possible fuel shortages and unexpected breakdowns.

Considering the costs of on-site generation equipment, additional manpower for operation and maintenance, fuel, etc., this alternative is more environmentally and economically impractical than central station generation of electric power.

IV LIST OF PREPARERS AND MANAGEMENT APPROVALS

EA Team Member	Responsibility
Aaron Mann - SPPC	Report Preparation Vegetation & Wildlife Air Quality
William Harrigan - SPPC	Soils, Geology, Watershed
Steven Siegel - SPPC	Archealogic Review
Cheryl Hoke BLM	Mitigation Measures, Visual Resources
Joseph Liebheuser - BLM	Mitigation Measures
Robert Taylor - BLM	Visual Resources
Kenneth Detweller - BLM	Wildlife

Recommended for Approval by:

2/3/81
Date

Cheryl E Hoke
Cheryl Hoke
District Environmental Coordinator

2-3-81
Date

Jerry Driver for
Frank Bingham
Chief, Division of Resource Management

2-4-81
Date

William J Civish
William Civish
Area Manager, Stateline - Esmeralda Resource Area

Approved By:

2/25/81
Date

for
Kemp Conn
District Manager

V INTENSITY OF PUBLIC INTEREST

ESMERALDA COUNTY PLANNING

No objection to the proposed project was expressed by the Esmeralda County Commission. (See Attachment 2.)

IV LIST OF PREPARERS AND MANAGEMENT APPROVALS

EA Team Member	Responsibility
Aaron Mann - BPPC	Report Preparation Vegetation & Wildlife Air Quality
William Merrigan - BPPC	Soils, Geology, Watershed
Steven Siegel - BPPC	Archeological Review
Cheryl Noke CLPA	Mitigation Measures, Visual Resources
Joseph Liebhauser - BLM	Mitigation Measures
Robert Taylor - BLM	Visual Resources
Kenneth Detweiler - BLM	Wildlife

Recommended for Approval by:

Date

Cheryl Noke
District Environmental Coordinator

Date

Frank Brogan
Chief, Division of Resource Management

Date

William Ritter
Area Manager, Stateline - Esmeralda Resource Area

Approved By:

Date

Kent Conn
District Manager

V IMPENDING OR PLAN TO INTEGRAT

ESMERALDA COUNTY PLANNING

No objection to the proposed project was expressed by the Esmeralda County Commission. (See Attachment 2.)

VI REFERENCES

Pinzl, Ann
Nevada's T/E Plant Map book
Nevada State Museum

Keith, William J.
Geology of the Red Mountain Mining District
Thesis presented to the faculty of San Jose State University

Muntz, Phillip A.
1968. A California Flora
University of California Press
Berkeley and Los Angeles, Ca

Brooks, Richard H. and Eileen Green
A Cultural Resource Investigation
of the Proposed Sunshine Mine
Distribution Line

BLM Library
Denver Federal Center
Bldg. 85, OC-521
P.O. Box 25047
Denver, CO 80225

BLM Library
Denver Federal Center
Bldg. 85, OC-521
P.O. Box 25047
Denver, CO 80225

STATE OF NEVADA

GOLDFIELD, NEVADA 89013

Esmeralda County

BOARD OF COUNTY COMMISSIONERS

GERALD M. ALLEN, Chairman, District No. 1
MAY BLISS, District No. 2
EDWARD DENTON, District No. 3
XNIEA BAIRD, Clerk

November 21, 1980

Recieved 11/26/80 SP

William J. Liebhauser
4765 W. Vegas Drive
P. O. Box 5400
Las Vegas, Nevada 89102

Re: Bureau of Land Management Application
Number N-30965

Sunshine Mining Project

Dear Mr. Liebhauser:

This is to advise you that the County of Esmeralda, State of Nevada, is in concurrence with Sierra Pacific Power Company in regards to the above-captioned application.

Esmeralda County does not contemplate any conflict with present or future plans of road or community development.

Very truly yours,

G. M. A.

G. M. Allen
Chairman

cc: Stephen P. Younkin

GMA:lms

LS

ARCHAEOLOGICAL RESEARCH CENTER

REPORT NUMBER 5-39-1

A CULTURAL RESOURCE INVESTIGATION OF THE PROPOSED SUNSHINE MINE DISTRIBUTION LINE, FROM THE SILVER PEAK SUBSTATION TO THE SIXTEEN TO ONE MINE, ESMERALDA COUNTY, NEVADA

Prepared for:

The Sierra Pacific Power Company

November 1980

Submitted by:

Archaeological Research Center,
Museum of Natural History,
University of Nevada, Las Vegas.
Antiquities Act Permit Number
81-NV-046.

Dr. Richard H. Brooks, Project Director, Eileen Green, Archaeologist.

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INTRODUCTION

On September 2, 1980, the Archaeological Research Center, Museum of Natural History, University of Nevada, Las Vegas (UNLV), was contacted by Steven Siegel, Environmental Specialist, Sierra Pacific Power Company, by telephone. He requested that the Research Center submit a proposal for an archaeological survey of a proposed powerline right-of-way, approximately 10 miles long with a 25 foot wide corridor. The survey was also to include two substations, the mill site substation, 70' by 70', and the mine site substation 50' by 100'. The telephone conversation was followed by a request for proposal letter dated September 24, 1980 from Sierra Pacific Power Company, describing the survey as a Class III, cultural resource investigation for the Sunshine Mine Distribution Line. This investigation was to be coordinated with the BLM District Archaeologist. The Research Center proposal was submitted and accepted by a letter dated October 20, 1980, from Aaron Mann, Environmental Specialist, accompanied by Purchase Order #29798 from the Sierra Pacific Power Company.

The field work was conducted on November 1 and 2, 1980, by Dr. Richard H. Brooks, project director and Eileen Green, archaeologist, assisted by S.T. Brooks, anthropologist. Both before and after the field work, archival research was carried out by Research Center staff members to locate any historical or archaeological sites previously recorded in the area, and to obtain background information on the geology, environmental

situation and history of the region.

Authority to conduct cultural resource investigations in the state of Nevada has been granted to Dr. Richard H. Brooks (Archaeological Research Center Director) through Nevada State Antiquities Permit Number 182 issued by the Nevada State Museum, and through Federal Antiquities Permit Number 81-NV-046 issued to the University of Nevada, Las Vegas, by the Department of the Interior pursuant to the Antiquities Act of 1906.

LEGAL DESCRIPTION

The proposed powerline right-of-way begins in Silver Peak, Esmeralda County, Nevada, T2S, R39E, Section 22 and proceeds across the southeast corner of Section 21, across the northwest corner of Section 28, diagonals across Section 29 to the southwest corner, then to the northwest corner of Section 32, and diagonally across Section 31. The line continues in a southwesterly direction into T2S, R38E, Section 36, then crosses the northwest corner of Section 1, T3S, R38E. The right-of-way then proceeds across the north half of Section 2, T3S, R38E, angles northwest across Section 3, and then re-enters T2S, R38E, in the southwest corner of Section 34, and proceeds across the southern portions of Sections 33 and 32 where it terminates on the private property of the Sixteen to One Mine, Exmeralda County, Nevada. U.S.G.S. maps utilized were the Silver Peak, Lida Wash and Piper Peak 15' topographic series. The total acreage for this survey is approximately 32 acres, including the powerline right-of-way and the mill and mine substation

areas. The length of the proposed powerline is approximately 9.5 miles, and the corridor surveyed was over 25 feet wide. The mine substation is 50 by 100 feet square and the mill substation is 70 by 70 feet square.

PROJECT LOCATION

The proposed powerline right-of-way begins at the Silver Peak substation in the east-central part of the town of Silver Peak. The town is located along the edge of the playa and the line proceeds southwest out of town up the relatively gentle incline of the bajada for about 3.5 miles. The Silver Peak substation is at approximately 4280 feet elevation and the proposed line runs across the northwest portion of Clayton Valley. The right-of-way then enters a well-developed wash which cuts through some low hills. At a relatively level area the mill substation is to be located, at about 5600 feet elevation, a distance of approximately 2 miles up the wash. The proposed line follows some low dissected hills for about a half mile and then enters the lower portion of Cottonwood Canyon, at an elevation of approximately 6000 feet. From here the right-of-way climbs rather steeply past the Nivloc Mine up Cottonwood Canyon to the turn-off to Cottonwood Spring, at an elevation of 7200 feet, a distance of approximately 3 miles. From this road junction where the Sixteen to One Mine no trespassing gate is encountered, the line follows along the canyon approixmately .7 miles to where the mine substation is located. This last section of the proposed powerline, on

private property, has been completely disturbed and altered by road building, holding pools for water drainage, pipeline construction and other mining activities. The elevation at the mine substation is also approximately 7200 feet.

ARCHAEOLOGICAL DATA REVIEW

The Archaeological Research Center maintains historical/archaeological records for the Southern Nevada region and has obtained site records from the Nevada State Museum for Esmeralda County. The National Register list for Nevada was consulted, and there are no National Register sites within or adjacent to the proposed powerline right-of-way, nor are there any sites known to be under consideration for recommendation to the National Register.

Records searched indicated that no previous historic or prehistoric archaeological sites have been located within or immediately adjacent to the proposed right-of-way. The Nivloc Mine is not identified in the records as a historic site and potentially eligible for nomination to the National Register.

In the general area of Silver Peak archaeological exploration has been conducted for some time, and a number of sites have been recorded. During the 1930's Julian Steward reported a cave with "inscriptions" on the road from Silver Peak to Fish Lake Valley. Within the past few years David Thomas' Pleistocene Lake Tonopah survey recorded 54 Esmeralda County sites, northeast of the survey area in Lower Big Smokey Valley. In 1977 Stan Rolf, archaeologist with the Las Vegas

BLM District Office, in conjunction with R.H. Brooks and J.P. King, Archaeological Research Center, visited the Silver Peak area to examine archaeological material and sites being exposed and recorded by Brian Smalley, one of whose relatives lived in the Silver Peak area. Smalley was an enthusiastic private collector, who had notified the BLM of his findings. The prehistoric sites he had located included petroglyphs, rock alignments, rock circles, and a small rock shelter from which he had removed a partially mummified burial. This latter site area is located within two miles of the proposed powerline right-of-way. Smalley also reported finding a fluted point on the surface along the playa margin, which is not unexpected since Thomas found similar point types around the Pleistocene Lake Tonopah.

Two previous BLM surveys of the existing powerline right-of-ways from Silver Peak approximately 1.5 miles southwest along the Nivloc Road produced negative evidence of cultural resources. Other surveys approximately seven miles north of the proposed powerline right-of-way recorded lithic scatters and open campsites on the playa shoreline.

In these two BLM surveys there is a discussion of the historic site potential of the entire Silver Peak area. Specifically mentioned are the mining community of Blair, which was deserted in the early 1920's, the old Silver Peak Railroad, as well as the town of Silver Peak that became active about 1865.

HISTORICAL BACKGROUND

The Silver Peak Mining District was organized in 1865 and the town had a post-office by 1866 (Carlson, 1974). Although the Silver Peak Mining District historically predates the Nivloc mining area, and is currently continuing as a town and mining district, the proposed powerline right-of-way begins in an already developed area of the town. Consequently, the historical integrity of Silver Peak will not be affected or impacted by construction of the proposed powerline, whereas the proposed powerline right-of-way will pass through a portion of the historic Nivloc mining area. The information concerning the history of the Nivloc mining area and the accompanying map of the Silver Peak mining district was obtained from The Story of Silver Peak, Esmeralda County, Nevada by Hugh A. Shamberger.

Silver ore was originally discovered in the early 1900's by an Indian prospector, Tom Fisherman, eight miles southwest of Silver Peak, Esmeralda County, Nevada. Fisherman reported the find to Harry Stimler, who was also an Indian prospector and involved in the discovery of the Goldfield mining area. Subsequently, near surface mining was done in this area which was then known as the Stimler Mine. In 1909 Stimler sold the property to W.H. Colvin, a millionaire broker from Chicago, who inverted his own name and registered the property as the Nivloc Mine. Under Colvin the mine was worked and developed sporadically from 1909 to 1934. During this time period the mine was dormant from 1923 to 1938, and in 1924 a flood washed

out both the mine and its camp. In 1928 the road was rebuilt, the main shaft repaired and the first pipeline installed to bring water from the springs about a half a mile west of the mine. When work was resumed some thirteen different claims were being mined in the Nivloc area. In 1934 Colvin abandoned the operation and his mining superintendent, Fred Vollmar Sr., took over the mine. On his death the mining property passed to his son, Fred Vollmar, Jr.

Vollmar, Jr. with two partners, organized the Red Mountain Mining Company and in 1935 and 1936 were doing exploration work funded through a $20,000.00 federal loan from the Reconstruction Finance Corporation. In 1937 the property was again sold, this time to Branlorne Mines, a Canadian corporation, which was organized as Desert Silver Inc. to develope the Nivloc Mines.

Desert Silver Inc. did the major development of the mine and camp area, although structures had existed in the locale since 1909. Colvin had constructed a road to the mine, a wooden head frame for the mine shaft, a blacksmith shop, one small frame building and a number of tents for residents. Although some of these structures had been washed out, along with the road, in 1924, when Bralorne Mines bought the Nivloc Mining area in 1937 the surviving structures included a small wooden headframe, a gasoline hoist, a diesel driven compressor, a blacksmith shop, a small house (used for a boarding house), two huts and tents. After Desert Silver Inc. took over the property they built a crushing plant, a 175 ton per day cyanide

mill, a 66,000 gallon water storage tank, a steel headframe, a boarding house, bunkhouse, office warehouse, and one residential dwelling. These sturctures were all in existance by 1938. From October 1940 to November 1943, a post-office was operated in Nivloc for a total population of 250, including 62 families and 150 company employees. During these years the water supply was extended and a new pipline was built from Cottonwood Springs to supply the mining operation and the residential population. Between October 1937 and July 1943, the mill processed 4,675,408 ounces of silver and 18,794 ounces of gold. This mine was the largest silver ore producer in the state of Nevada after 1932. The whole operation was closed down in 1943.

After this closure the mine transfered ownership a number of times: in 1946 it was operated as Nivloc Mines Inc.; U.S. Mining and Milling Corporation operated it from 1956 to 1958, when they moved their mining business to the Sixteen to One Mine a mile and a half to the west; after 1973 the Mid-Continent Mining Corporation of Littleton, Colorado, and the Sunshine Mining Company of Idaho established a development agreement for the properties in this area.

At the time that the survey for the proposed powerline cultural resource investigation was conducted, information was recorded concerning the historical structures presently standing in the Nivloc mining area. These included three frame structures, several corrugated metal buildings, a steel headframe, a wooden trestle and tracks, concrete apron and powdered

silty mill taillings, a metal water storage tank, scattered pipes, cable drums and other mining debris. The proposed powerline right-of-way passes through or adjacent to portions of these remaining historical structures.

RESEARCH OBJECTIVES

This survey for cultural resources was undertaken to determine the possibility of any culturally significant materials in the proposed powerline right-of-way. The investigation was designed to inventory any cultural values, historic or prehistoric and, if found, offer alternative migigation measures related to their potential significance.

ENVIRONMENTAL BACKGROUND

Essentially the topographic features of the proposed right-of-way can be divided into two aspects. One is the bajada fan which extends from Silver Peak to the low range of hills fronting the southeastern facing side of the Silver Peak Range proper. As the proposed right-of-way enters the foothill area, or the second aspect of the terrain, the route generally follows two well-marked canyon cuts. The lower canyon is unnamed and the upper canyon is designated as the Cottonwood Canyon.

In this general area "the chief rocks are Paleozoic limestones, granitic rocks of pre-Tertiary age (granites, diorites, etc.), with abundant Tertiary sediments, and Tertiary lavas, such as rhyolites, andesites, and basalts. As is the case in all this desert region, the Pleistocene wash from the mountains,

which floors the valleys and fringes the mountains, forms a conspicuous geological feature" (Spurr, 1906:111-112). Geology along exposed canyon walls in the upper portion of the proposed right-of-way revealed highly compacted and heavily altered strata. A number of flowing springs occur in this section of the foothills of the Silver Peak Range.

This cultural resource investigation survey was conducted in the late fall, following a hot and dry summer with a mild fall daily temperature range from 37 to 75 degrees. The environmental background is based on field observations which reflect this climatic situation and not on the overall potentials of the spring and early summer appearance of the plant cover of the terrain.

The proposed powerline survey began on the playa margin, approximately 4260 feet above mean sea level, where the vegetation consists primarily of a sparse saltbush community. The dominant native plant is saltbush (Atriplex canescens). As As the survey proceeded along the right-of-way up the bajada the vegetaion changes gradually to a shadscale community, with the dominant plants being shadscale (Atriplex confertifolia) and saltbush. Other plants observed in association with this community are spiny hopsage (Grayia spinosa), little leave ratany (Krameria parvifolia), matchweed (Gutierrezia sarothrae), turpentine broom (Thamnosma montana), Tetradymia axillaris, desert mallow (Sphaeralcea ambigua), princess plume or Indian cabbage (Stanleya pinnata), Nevada joint fir or Mormon tea (Ephedra nevadensis), cholla (Opuntia acanthocarpa), beaver

tail cactus (O. basilaris) and various grasses including Indian rice grass (Oryzopsis hymenoides).

In the foothill areas above 6200 feet a scattered juniper pinyon community was observed. This plant community included juniper (Juniperus osteosperma), pinyon pine (Pinus monophyla) and cliff rose (Cowania mexicana). In the canyons at this altitude and in the spring areas the observed plants are cottonwood (Populus fremontii), wash willow (Salix sps.) and rabbit brush (Chrysothamnus nauseosus). Russian thistle or tumbleweed (Salsola Kali tenuifolia) is an introduced noxious weed which was observed in the moderately to severely disturbed surface and subsurface soils occurring throughout the survey area. No creosote was observed during this cultural research investigation along the right-of-way for the proposed powerline.

Observed fauna were few and included cactus wrens, ravens, song birds of various types, antelope ground squirrels, and several small (2-3 inch long) lizards. Pellets of rabbits and woodrats were seen, and numerous woodrat midden accumulations were noted particularly in dump areas. Abandoned drums were being utilized by the woodrats as living areas.

METHODOLOGY

An intensive on foot survey was conducted by two crew members walking parallel transects within the 25 foot or 7.62 meter wide corridor, which permitted a close visual examination of the ground surface. This also allowed the archaeologists to extend their examination of the corridor beyond the 25

foot limits. As each section from stake to stake was surveyed the vehicle was driven forward and contact was maintained with the survey crew, so mileages could be recorded, and correlation of topographical features could be checked against the U.S.G.S maps. The stakes were not placed at regularly spaced intervals, but were related to changes in the line, the terrain and the sighting possibilities of the survey crew. Prior to the on-foot survey, a reconnaissance was made of the entire proposed line to determine at what points the right-of-way veered from the existing roadway, where the proposed substations are to be located, and the terminus of the proposed right-of-way within the property of the Sixteen to One Mine.

From the town of Silver Peak the proposed powerline right-of-way follows the existing roadway and several miles of an existing powerline up the bajada slope to the base of a low range of hills, a distance of approximately 3.9 miles. In the next 2.3 miles as far as the mill substation, the proposed right-of-way veers at times some distance from the roadway. From the mill substation to the Nivloc Mine, a distance of about 2.0 miles, proposed power line again veers at times away from the existing roadway. From the Nivloc Mine to the mine substation, the proposed powerline follows the roadway fairly consistently over a distance of about 1.3 miles. No difficulty was encountered locating the stakes of the proposed right-of-way when the line veered away from the existing roadway.

During the survey contact was maintained between all crew

members, so that if cultural material was encountered it could be thoroughly examined by them. Field note books were kept by each crew member as they conducted the survey and observations were recorded on the natural environment, the biota, and any cultural data encountered.

RESULTS OF SURVEY

Two sites were encountered and recorded during the intensive survey of the proposed powerline. One is a small lithic scatter adjacent to the mill substation and the other is the Nivloc Mine historic complex. The lithic scatter is on a low alluvial ledge above a shallow, dry wash. It is approximately 100 meters west of the northwest corner of the mill substation fence. The site consisted of a 5 meter square area, situated on desert pavement, containing broken chert nodules and flakes, and welded tuff flakes. No finished artifacts were observed.

Approximately 0.1 mile northeast of the lithic scatter on a low knoll on the north side of the existing roadway, there was observed a dispersed distribution of obsidian nodules. Some of these are large enough to have been utilized prehistorically for artifact manufacture. The small sized nodules are the type called "Apache tears" by gem collectors. Numerous obsidian flakes were seen, but there is no direct evidence that this was a prehistoric workshop area.

The Nivloc Mine historic complex is eight miles southwest of Silver Peak via the Nivloc Road and located in Cottonwood Canyon. The site is situated on both sides, north and south, of

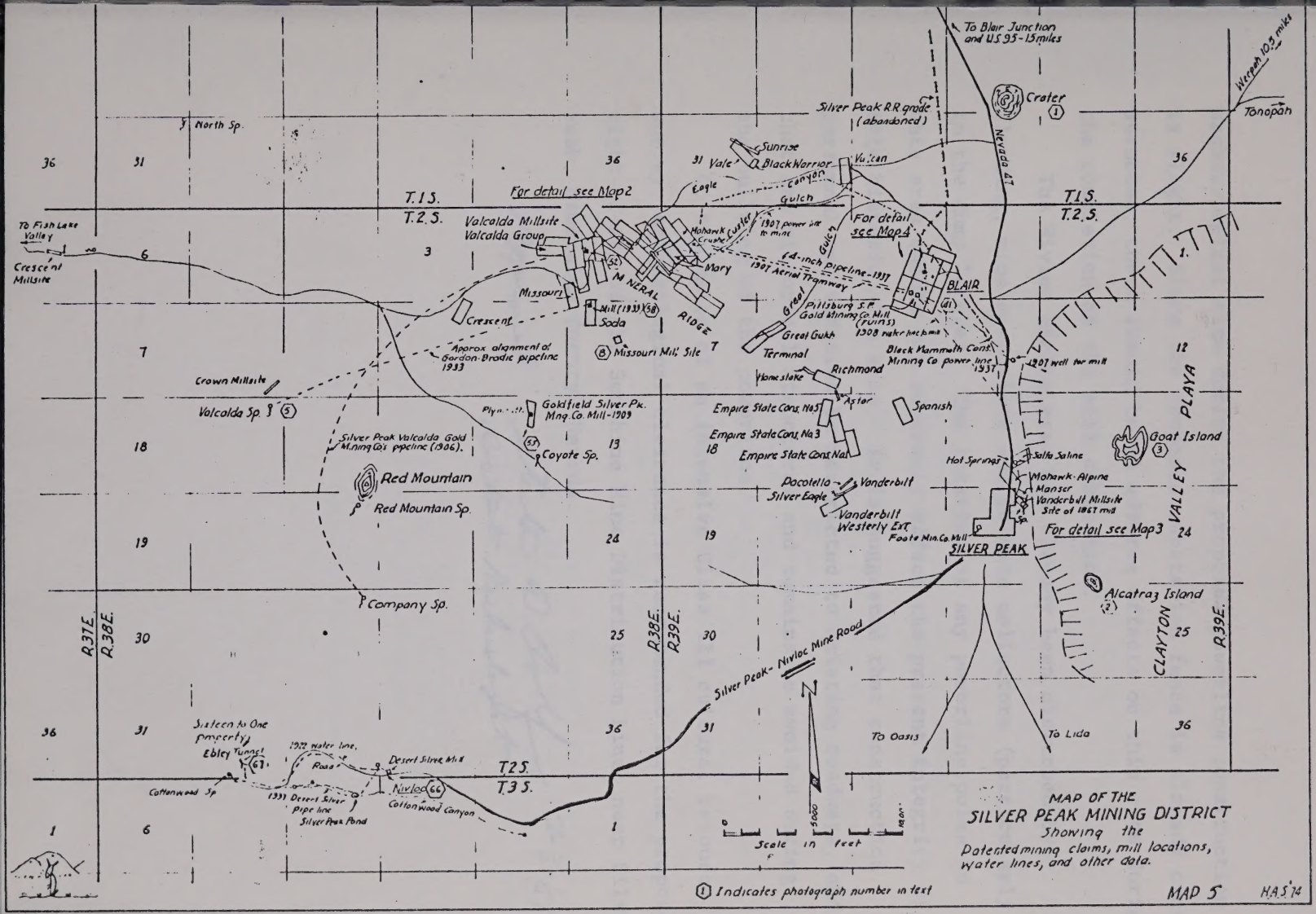
the dirt road for approximately 0.8 mile. The water pipeline runs approximately 0.5 mile west to Cottonwood Springs. The dump areas are about .15 mile east of the main mining camp concentration. The map taken from Shamberger (1976) shows the general location of the mining camp within the Silver Peak Mining District, the positions of the mill, the pipeline and the water tank. In the Historical Background Section the history of the Nivloc Mine is reviewed including a description of the existing structures observed during the survey. Photographs of the Nivloc mining area are on file at the Research Center (also see Illustrations, 1 through 6).

NATIONAL REGISTER RECOMMENDATIONS

During this cultural resource investigation for a proposed powerline right-of-way only the Nivloc mine historic site area may meet the criteria for inclusion in the National Register of Historic Places as set forth in Title 36 of the Code of Federal Regulations, Part 60.6 (d), properties "that have yielded, or may be likely to yield information important in prehistory or history" (1976).

SUMMARY AND RECOMMENDATIONS

An approximately 10 mile long, 25 foot wide, corridor was intensively surveyed on foot for the proposed powerline right-of-way, called the Sunshine Mine Distribution Line, to be constructed by the Sierra Pacific Power Company. One lithic scatter was encountered outside of the fence, but adjacent to the mill substation. The potential of distubrance of this small


To Blair Junction and U.S. 95 - 15 miles
Crater (1)
Silver Peak R.R. grade (abandoned)
Nevada 47
Weepah 10.5 miles
Tonopah
North Sp.
Sunrise
Vale
Black Warrior
Vulcan
Eagle Canyon Gulch
For detail see Map 2
For detail see Map 4
T.1 S.
T.2 S.
To Fish Lake Valley
Crescent Millsite
Valcalda Millsite
Valcalda Group
Mohawk (Custer) Crusher
1907 power line to mine
14-inch pipeline - 1937
1907 Aerial Tramway
Great Gulch
Mary
Missouri
Crescent
Mill (1933) (38)
Soda
MINERAL RIDGE
Pittsburg S.P. Gold Mining Co. Mill (RUINS)
1908 water line to mill
BLAIR
Great Gulch Terminal
Black Mammoth Cons. Mining Co. power line 1937
1907 well for mill
Approx alignment of Gordon-Brodie pipeline 1933
(8) Missouri Mill Site
Crown Millsite
Valcalda Sp. (5)
Goldfield Silver Pk. Mng. Co. Mill-1909
Richmond
Homestake
Empire State Cons. No 5
Empire State Cons. No 3
Empire State Cons. No 1
Aster
Spanish
Silver Peak Valcalda Gold Mining Co's pipeline (1906).
Coyote Sp. (57)
Red Mountain (9)
Red Mountain Sp.
Goat Island (3)
Salts Saline
Hot Springs
Mohawk-Alpine
Manser
Vanderbilt Millsite
Site of 1867 mill
Pocatello
Silver Eagle
Vanderbilt
Vanderbilt Westerly Ext.
Foote Min. Co. Mill
SILVER PEAK
For detail see Map 3
PLAYA
VALLEY
CLAYTON
Alcatraz Island (7)
Company Sp.
R37E.
R38E.
R39E.
Silver Peak - Nivloc Mine Road
Sixteen to One property
Ebley Tunnel (67)
1922 water line
Road
Desert Silver Mill
Cottonwood Sp.
1931 Desert Silver pipe line
Silver Peak Pond
Nivloc (66)
Cottonwood Canyon
T2S.
T3S.
To Oasis
To Lida
Scale in feet
5000
MAP OF THE SILVER PEAK MINING DISTRICT
Showing the
Patented mining claims, mill locations, water lines, and other data.
(1) Indicates photograph number in text
MAP 5
HAS '74

archaeological site during the proposed powerline construction is slight. Since the proposed substation fence is already constructed, there should be no adverse effects on this site during the completion of the mill substation.

The Nivloc mining area has already been disturbed by flooding, mine operations and private collectors (particularly in the dump locale). The location of any powerline poles in this area should not adversely affect the present integrity of this historic site area. It is suggested that construction personnel and vehicles be restricted to existing roadways, and that the historical structures and remains be avoided during the building of the powerline.

On the basis of an intensive Class III cultural resource survey, archaeological clearance is recommended for the proposed right-of-way of the Sunshine Mine Distribution Line, near Silver Peak, Esmeralda County, Nevada.

Approved: Stanton D. Goff 2-3-81
District Archaeologist

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Spurr, Josiah Edwards
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*"negative" or "positive" indicates the presence or absence of archaeological material.

LIST OF ILLUSTRATIONS

1. View northeast, Nivloc Road
2. Cottonwood Springs, view south from Nivloc Road.
3. Nivloc, mine supervisor's residence, north bench.
4. Nivloc, mine structures, steel headframe, water tank.
5. Nivloc, mill foundations and tailings, water tank, trestle.
6. Nivloc, south bench structure remains and Cottonwood Canyon.

ILLUSTRATION 1

ILLUSTRATION 2

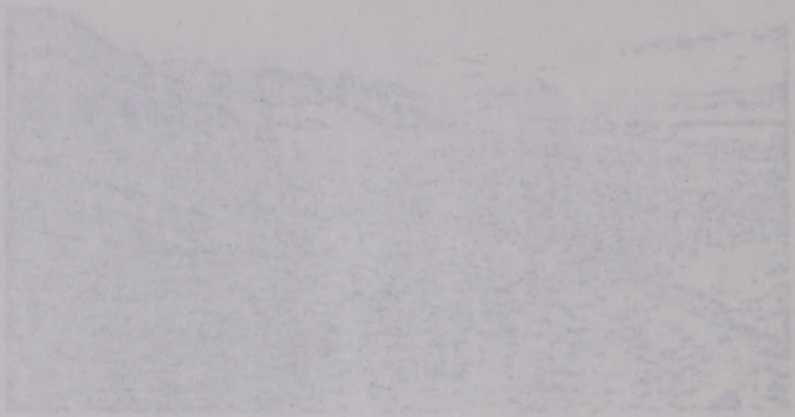
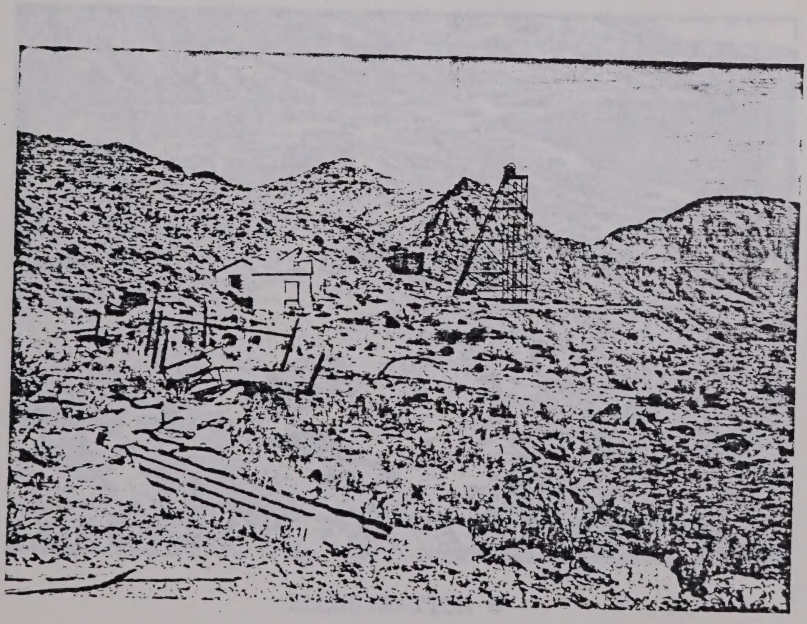


ILLUSTRATION 3



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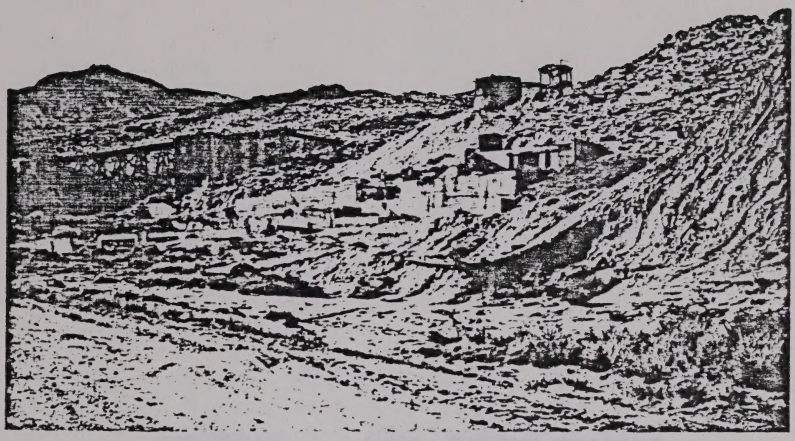


ILLUSTRATION 5

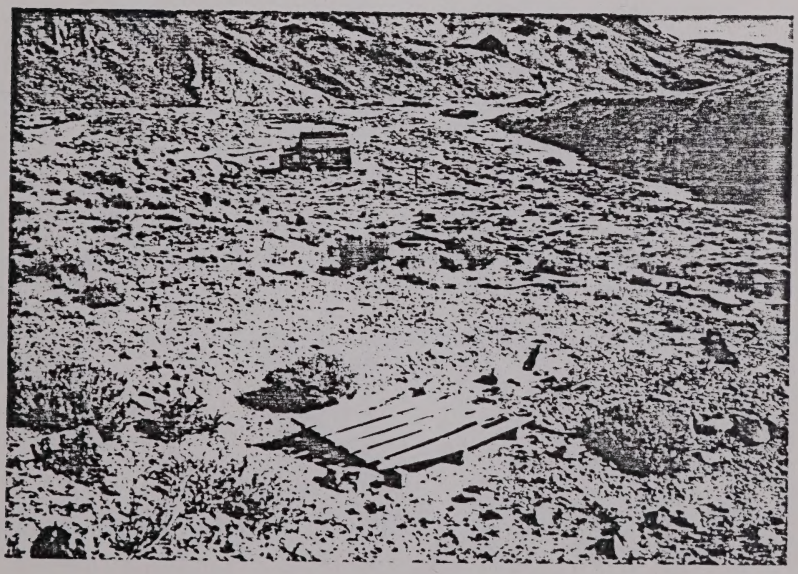


ILLUSTRATION 6

APPENDIX A: SITE SURVEY RECORDS

Mus Cat #
Nevada # 26 ES

SITE SURVEY RECORD
ARCHAEOLOGICAL RESEARCH CENTER
MUSEUM OF NATURAL HISTORY

Recorder(s): [illegible]ard Brooks, Sheilagh Broo[illegible], Eileen Gree
Date: 11/2/80

UTM: Zone | | Easting | | | | | | Northing | | | | | |

Project: Sierra Pacific

1. Field Site No.: SP-1
2. Nevada No.: 26ES
3. Site Name: Nivloc
4. State: Nevada
5. County: Esmeralda
6. T. 2S R. 38E Sec. 33/34 SE¼ of SW1/4 of SE¼ of SW1/4
7. Contour Elevation: 6280'
8. Map Reference: Piper Peak, 15'
   Lida Wash, 15'
9. Site Type: Historic
10. Situation and Location: Cottonwood Canyon, 8 mi. southwest of Silver Peak via the Nivloc Road. The site is located on both sides (n-s) of the dirt road for approximately .8 mi. The water pipeline runs approximately .5 mi. west to Cottonwood Springs. The dump areas are approximately .15 mi. east of the east end of the mine camp proper.

11. Site Description (features, measurements, etc.): Wooden frame structure, 2 corrugate iron stuctures, steel head frame, wooden trestle with steel tracks, concrete cyanide mil foundations, tailings, .8 mile west to east on bench N above Nivloc Road. Water pipe, steel cable, mine adit, stone foundations and scattered lumber, in the canyon floor and wash south below road level. 2 frame structures at the east end on a bench above the canyon floor. (Continued on next page.)

12. Depth: Unknown
13. Soil and Substrate Character: Rhyolite, granite in limestone shale.
14. Nearest Water: Cottonwood Springs 15 mi. west, perennial springs.
    (Distance, direction and dependability)
15. Exploitable Natural Resources: Silver and gold bearing rock.
16. Vegetation: Bursage community, lower limits of pinon-juniper, grasses, ephedra, rabbit
17. Previous Excavation: None brus
18. Condition (vandalized, eroded, etc.): Vandalized, runoff erosion.
19. Possibility of Destruction: Continuous visitation.
20. Artifacts (collected?): Metal cable, pipe, wire remnants, 5 and 10 gallon drums, cans glass fragments -- not collected.
21. Remarks and Evaluation (Possible cultural affiliations, excavation recommendations, property ownership, etc):

22. Photographs and Sketches: 35 mm color prints.

SITE SURVEY RECORD (cont.)

11. Site Description (features, measurements, etc.) (cont.):

Dump areas .15 mi. east of the 2 frame structures.

#1 is south of the road on a low alluvial ridge. It is 25 m^2 in area, and contains tin cans, metal drums and cylindrical metal containers ± 30 cm. long by 20 cm. diameter, lids embossed "Union Carbide Co."

#2 is north of the road ± 50 m. The dump area is spread over low alluvial ridges in an area ± 150 m. east-west, 50 m. north-south, in continous heaps of rusted cans, bottle glass, whole and partial bottles, and crockery sherds. Bottle include Coca-cola, Reno and Las Vegas, Nev., Orange Crush, Colorado, Farr better beverage, Reno, Alka-Time, Reno. An auto body frame and scattered hood and fender parts is a 1930's type.

Mus Cat #
Nevada #

SITE SURVEY RECORD
ARCHAEOLOGICAL RESEARCH CENTER
MUSEUM OF NATURAL HISTORY

Recorder(s) Richard Brooks, Sheilagh Brooks, Eileen Gre
Date: 11/2/80

UTM: Zone | | Easting | | | | | | Northing | | | | | |

Project: Sierra Pacific

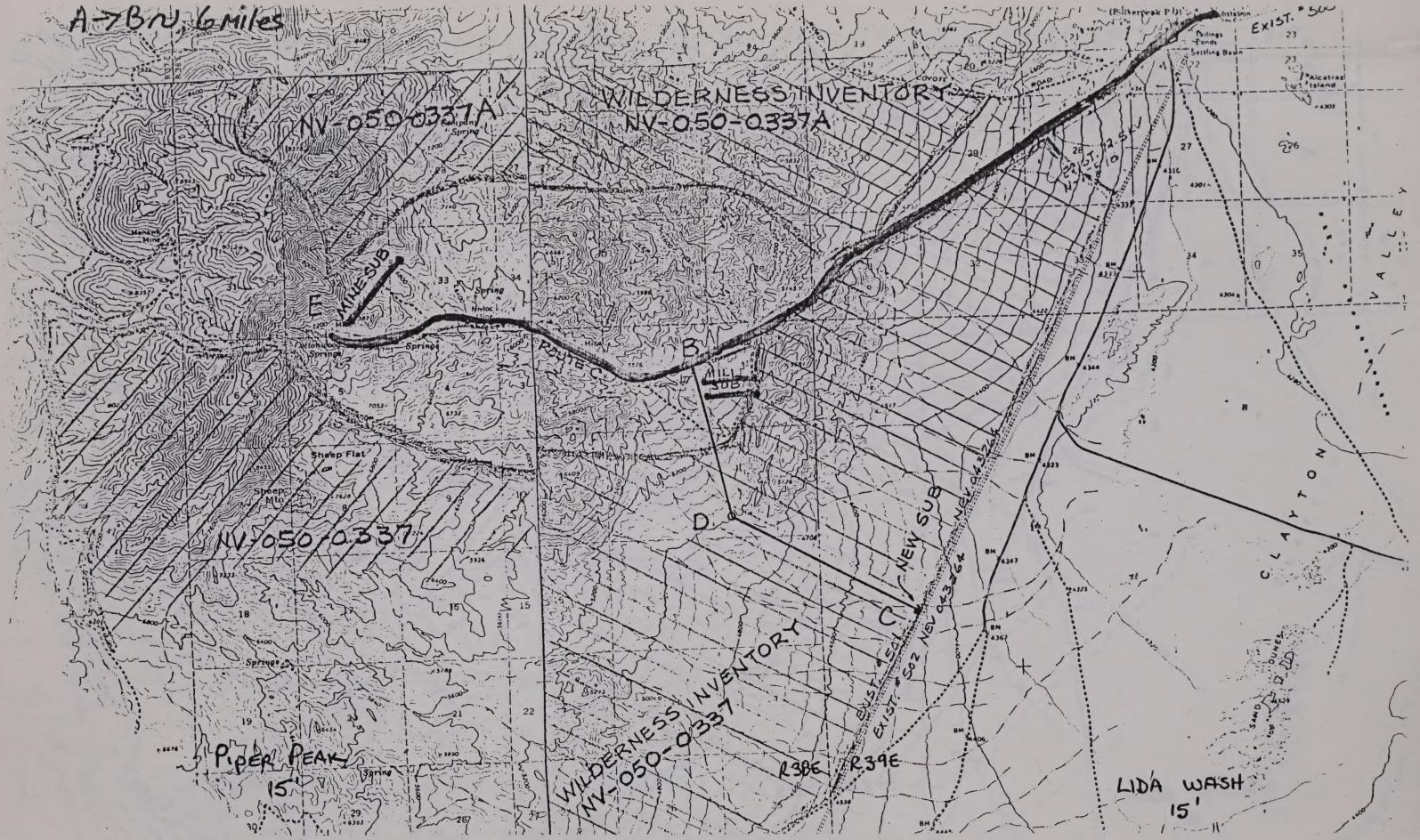
1. Field Site No.: SP-2
2. Nevada No.:
3. Site Name: Mill Sub
4. State: Neyada
5. County: Esmeralda
6. T. 3S R. 38E Sec. 2 SE 1/4 of NE 1/4
7. Contour Elevation: 5400'
8. Map Reference:
9. Site Type: Lithic Scatter
10. Situation and Location: Nivloc Road 5.9 miles southwest of the Silver Peak Substation, approximately 100 m. west of the northwest corner of the material yard, on a low ridge on the east side of a dry wash.

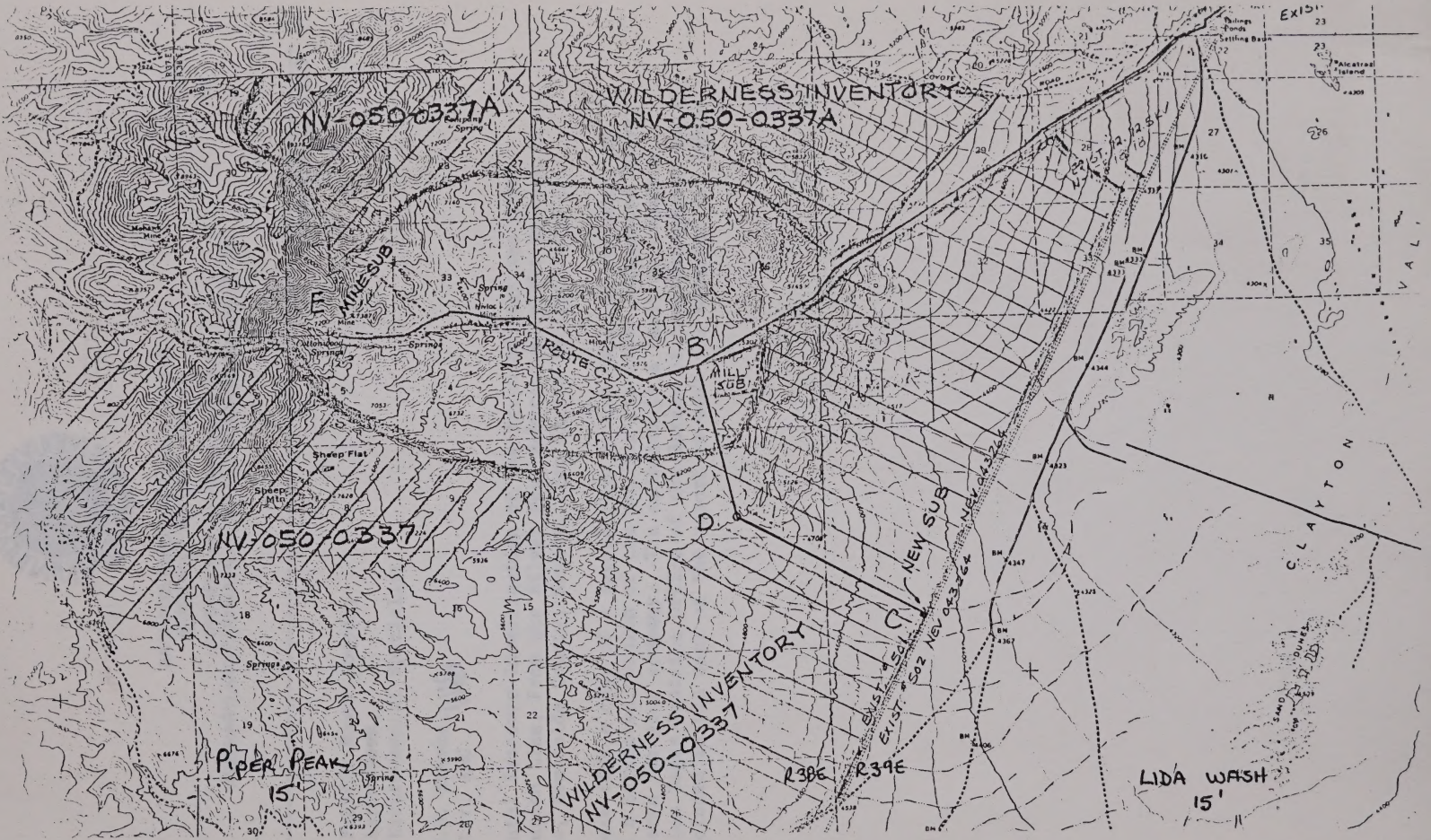
11. Site Description (features, measurements, etc.): Alluvial ridge with desert pavement surface, patinated basalts and chert, quartz gravels and boulders. The lithic scatter is in a 10 m^2 square area, and consists of broken chert nodules and flakes, and welded tuff flakes.

12. Depth: Surface
13. Soil and Substrate Character: Alluvial sands and gravels.
14. Nearest Water: Springs 2.5 - 3.0 mi. west.
(Distance, direction and dependability)
15. Exploitable Natural Resources: Chert and welded tuff float lithic material.
16. Vegetation: Shadscale community with Krameria, mallow, cacti, Tetradymia, Russian thist
17. Previous Excavation: None
18. Condition (vandalized, eroded, etc.): Slight runoff erosion.
19. Possibility of Destruction: Adjacent to well travelled road.
20. Artifacts (collected?): Chert cores and flakes, welded tuff flakes observed.

21. Remarks and Evaluation (Possible cultural affiliations, excavation recommendations, property ownership, etc): BLM ownership. Obsidian nodules were observed on a low ridge .1 mile northeast on the north side of the road.

22. Photographs and Sketches:


A-7 B-U, 6 miles
NV-050-0337A
WILDERNESS INVENTORY
NV-050-0337A
EXIST. 500
MINE SUB
E
B
Spring
Springs
Route C
Mill
SUB
Sheep Flat
Sheep Mill
NV-050-0337
D
NEW SUB
NEV 043264
C
EXIST. SUB NEV 043264
WILDERNESS INVENTORY
NV-050-0337
R38E
R39E
CLAYTON VALLEY
PIPER PEAK
15'
LIDA WASH
15'


NV-050-0337A
WILDERNESS INVENTORY
NV-050-0337A
MINE SUB
ROUTE C
B
MILL SUB
D
NEW SUB
NEV 043264
EXIST. 502
EXIST. 504
C
NV-050-0337
WILDERNESS INVENTORY
NV-050-0337
R38E
R39E
PIPER PEAK
15'
LIDA WASH
15'
CLAYTON
Sheep Flat
Sheep Mtn
Alcatraz Island
EXIST

ARCHAEOLOGICAL RESEARCH CENTER
MUSEUM OF NATURAL HISTORY
UNIVERSITY OF NEVADA, LAS VEGAS
4505 MARYLAND PARKWAY•LAS VEGAS, NEVADA 89154•(702) 739-3381

MEMORANDUM

January 7, 1980

TO: Sierra Pacific Power Company
ATTN: Aaron Mann,
Environmental Specialist

FROM: Dr. R.H. Brooks, RHB
Director, ARC

RE: "A Cultural Resource Investigation of the Proposed Sunshine Mine Distribution Line, From the Silver Peak Substation to the Sixteen to One Mine, Esmeralda County, Nevada," for Sierra Pacific Power Co.

Enclosed please find a copy of a second page to the table of contents, an addendum and a corrected version of the map for the above referenced survey report completed for your company. The addendum is a reply to comments made by the Las Vegas District Office of the Bureau of Land Management and should be included in the copy of the report we sent you November 26, 1980.

TABLE OF CONTENTS

Page

ADDENDUM..... 26

ADDENDUM

On Page 13, Paragraph 3, reference is made to dispersed obsidian nodules. It should be emphasized that these nodules occur geologically from volcanic activity in the area and are dispersed widely in the Silver Peak locale. They were noted in the report as a matter of interest; and a philosophical statement was made that this type of nodule may have been used prehistorically. What the archaeologist observed were nodules that had been fractured or shattered naturally and a few resultant flakes were scattered in this vicinity. Obsidian whether fractured naturally or by human activities will demonstrate bulbs of percussion or apparent edge scarring. There were no concentrations in workshop centers, nothing to indicate in anyway that there had been prehistoric human activity utilizing the nodules in this location. Under no circumstances could this be considered a cultural focus.

WILDERNESS INVENTORY
NV-050-0337A
NV-050-0337A
WILDERNESS INVENTORY
NV-050-0337
NV-050-0337
MINESUB
MILL SUB
NEW SUB
EXIST. 502
NEV 043264
EXIST. 508
ROUTE C
A
B
C
D
Sheep Flat
Sheep Mtn
Piper Peak
Lida Wash
Clayton
T2S
T3S
R38E
R39E

BLM Library
Denver Federal Center
Bldg. 85, OC-521
P.O. Box 25047
Denver, CO 80225